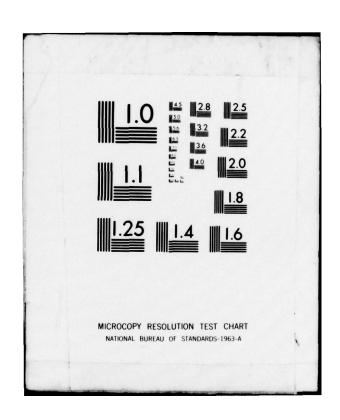
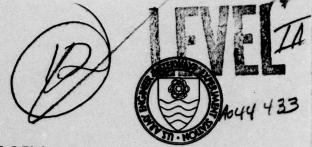
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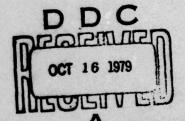
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George C. Hoff

U. S. Army Engineer Waterways Experiment Station
P. O. Box 631, Vicksburg, Miss. 39180

July 1979 Final Report

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Prepared for U. S. Army Materiel Development and Readiness Command Alexandria, Virginia 22333

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PREFACE '

This bibliography supplement was prepared from source material provided to and obtained by the author during the normal conduct of business at the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss. Special appreciation is extended to Dr. Yoshihiko Ohama, Department of Architecture, College of Engineering, Nihon University, Japan, for contributing a major listing of Japanese source material. The bibliography supplement was compiled for use in the operation of the Concrete Technology Information Analysis Center (CTIAC).

Funds for the publication of this bibliography supplement were provided from those made available for operation of the CTIAC. This is CTIAC Report No. 39. The report was prepared by Mr. George C. Hoff, Chief, Materials Properties Branch of the Structures Laboratory, WES, under the general supervision of Messrs. Bryant Mather, Acting Chief, Structures Laboratory, and John M. Scanlon, Chief, Engineering Mechanics Division.

Commanders and Directors of WES during the preparation and publication of this bibliography supplement were COL John L. Cannon, CE, and COL Nelson P. Conover, CE. Technical Director was Mr. Fred R. Brown.

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SELECTED BIBLIOGRAPHY ON FIBER-REINFORCED CEMENT AND CONCRETE

INTRODUCTION

The initial publication of this bibliography and its first supplement included a total of 811 references pertaining solely to fiber reinforcement of cement and gypsum matrices, mortars, and concrete.

This supplement provides 471 additional references of which approximately 80 percent were published outside the United States. Many of these are published in English, however. Major contributions from Japan, Sweden, United Kingdom, and Russia are included. The following references were compiled from publications available directly to the author and from bibliographies existing in other published works on the subject. Attempts were made to provide as much information as possible for each reference although in some instances, where the reference information was not obtained directly from the publication, the reference may not be as complete as it could be. In general, papers solely on the theory of fiber reinforcement and composite materials which did not explicitly include fiber reinforcement of cements and concretes were not listed.

^{*} G. C. Hoff, C. M. Fontenot, and J. G. Tom, "Selected Bibliography on Fiber-Reinforced Cement and Concrete," Miscellaneous Paper C-76-6, June 1976, U. S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

^{**} G. C. Hoff, "Selected Bibliography on Fiber-Reinforced Cement and Concrete, Supplement No. 1," Miscellaneous Paper C-76-6, September 1977, U. S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

BIBLIOGRAPHY

- "A Study of the Properties of CEM-FIL/OPC Composites," BRE Current Paper 38/76, Building Research Establishment, Building Research Station, Garson, Watford, England, 1976, pp 1-14.
- ACI Committee 544, "Listings of Fibrous Concrete Projects," Unpublished, American Concrete Institute, Detroit, Michigan, Feb 1978, 232 pp.
- 3. ACI Committee 544, "Measurement of Properties of Fiber Reinforced Concrete," Proceedings, American Concrete Institute, Journal, Vol 75, No. 7, Jul 1978, pp 283-289.
- 4. Alberts, C. "Sprutning Av Stalfiberbetong (Steel Fibre Shotcrete)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp H1-H14 (In Swedish).
- 5. Alberts, C., Lindstrom, T., and Rasmussen, R., "Patentundersokning Av FRC-Material Med Hansyn Till Material, Anvandning Och Till-verkningsteknik. (Patent Survey of FRC Materials with Reference to Material, Use and Production Technique)," Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977 pp X1-X28 (In Swedish).
- Alberts, C. and Kramers, M., "Swedish Shotcrete Equipment and Development in Fibrous Shotcrete," Presented at the Engineering Foundation Conference "Shotcrete for Ground Support," Easton, MD, Oct 1976.
- 7. Ali, M. A. and Singh, B., "The Effect of Porosity on the Properties of Glass Fibre-Reinforced Gypsum Plaster," <u>Journal of Materials Science</u>, 10, 1975, pp 1920-1928.
- 8. Akazawa, T., "Properties of Mortar and Concrete Mixed With the Ringed Wire," <u>Japan Concrete Journal</u> (Tokyo), Vol 16, No. 2, Feb 1978, pp 7-11 (In Japanese).
- Akazawa, T., "The Properties of Mortar and Concrete Mixed With the Ringed Wire," (In Japanese), <u>Concrete Journal</u> (Japan), Vol 16, No. 2, Feb 1978, pp 7-11.
- Amasaki, S. and Akashi, T., "A Study on Impact Fatigue Strength of High Strength Concrete and Fiber Reinforced Concrete" (In Japanese), Proceedings, Japan Society of Civil Engineers, No. 262, Jun 1977, pp 143-151.
- Amasaki, S. and Akashi, T., "A Study on the Impact Fatigue Strength of Steel Fiber Reinforced Concrete," <u>CAJ Review of the 30th General</u> <u>Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 271-272.

- 12. Anderson, W. E., "Proposed Testing of Steel-Fibre Concrete to Minimize Unexpected Service Failures," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, April 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 223-231.
- 13. Araki, K., Sudoh, G., Ishizaki, K., and Azami, A., "Mechanical Properties for Steel Fiber Reinforced Partially Polymer-Impregnated Concretes," CAJ Review of the 31st General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1977, pp 163-165.
- 14. Araki, K., Sudoh, G., Ishizaki, K., and Azami, A., "Strength Properties and Durability of Steel Fiber Reinforced Partially Polymer-Impregnated Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 54-59.
- 15. Ashley, D. G., "Measurement of Glass Content in Fibre Cement Composites by X-Ray Fluorescence Analysis," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, April 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 265-274.
- 16. Aslanova, M. S., "New Kinds of Glass Fibers," (In Russian), <u>Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva Im. D. I. Mendeleyeva</u>, Vol 20, No. 2, 1975, pp 191-197.
- 17. Attwell, R. L., "The 'Bancem' Continuous Production Process," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England), 12-14 October 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 201-204.
- "Australian Technique for Molding Concrete Houses," <u>Concrete Construction</u>, Vol 23, No. 11, Nov 1978, pp 659.
- 19. Aya, K., and Ohuchi, S., "Fundamental Study of Fresh Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 126-129.
- 20. Babu, K. G., Subrahmanyan, B. V., Neelamegam, M., and Rajamane, N. P., "Performance of Fiber-Reinforced Concrete Members With Polymeric Superplasticizers," Presented at Session 112, Mechanical Properties of Concrete, 58th Annual Transportation Board Meeting, Washington, DC, Jan 15-19, 1979.
- 21. Babut, R., and Brandt, A. M., "The Method of Testing and Analysing Steel Fibre Reinforced Concrete Elements in Flexure," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, April 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 479-486.

- 22. Basavarajaiah, B. S., Rao, K. Janardhan, and Raju, N. Krishna, "Compressive Strength and Bearing Strength of Steel Fibre Reinforced Concrete," <u>Indian Concrete Journal</u>, Vol 51, No. 6, Jun 1977, pp 183-188.
- 23. Batson, G. B., "Strength of Steel Fiber Concrete in Adverse Environments," Clarkson College of Technology, Potsdam, N. Y., Jun 1977, 57 p.
- 24. Bellini, P. X., Williamson, G. R., and Morse, D. C., "Rapid Construction for Hardening Above-Ground Facilities to Small Arms Fire," Report No. CERL-TR-M-230, Construction Engineering Research Laboratory (Army), Champaign, Ill., Apr 1978, 58 pp.
- 25. Bimberg, R., and Riedel, W., "Corrosion of Glass Fibers and Cement Products," (In German), Paper presented at Silichem 3rd Meeting on Science and Research in Silicate Chemistry, Brno, 17-19 Jun 1975. Also <u>Silikattechnik</u> (Czechoslovakia), Vol 26, No. 11, 1975, p 392.
- 26. Biryukovich, K. L., "Strength and Deformability of Glass Fiber Reinforcement," <u>Beton i Zhelezobeton</u>, No. 7, 1959, pp 326-332.
- 27. Biryukovich, K. L. and Biryukovich, Yu. L., "Glass Cement a construction material reinforced with annealed glass fibers, Stroitel. Materialy, Vol 7, No. 11, 1961, pp 13-20.
- 28. Blaha, B., "ARC Sparks Interest in Glass Fiber Reinforced Pipe," Concrete Products, Vol 81, No. 8, Aug 1978, pp 26-28.
- 29. Blaha, B., "Foam-Filled GRC Panels Are Energy Efficient," Concrete Products, Vol 81, No. 4, Apr 1978, pp 42-47.
- Bolyachevets, V., Bobik, I., Nikonets, I., Duleba, M., and Sternyuk, I., "The Use of Glass Fibers in Asbestos Cement Products," (In Russian), <u>Budiv. Mater. Konstr.</u>, No. 2, 1975, p 8.
- 31. Bowles, A. K., "Fibrous Concrete and Applicator Equipment for Coal Mine Use," Presented at the 41st Safety Conference, Richmond, VA, 8 May 1975.
- 32. Boys, J. A., "Fire Resistant Ducting," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 267-270.
- 33. Brailey, J. G., "Some Observations on the Production of Hand Sprayed GRC," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 159-172.
- 34. Brandshaug, T., Ramakrishnan, V., Coyle, W. V., and Schrader, E. K., "A Comparative Evaluation of Concrete Reinforced With Straight Steel Fibers and Collated Fibers With Deformed Ends," Report SDSM&T-CBS 7801, South Dakota School of Mines and Technology, Rapid City, South Dakota, May 1978, 52 pp.

- 35. Briggs, A., "Review Carbon Fibre-Reinforced Cement," <u>Journal of Materials Science</u>, Vol 12, 1977, pp 384-404.
- 36. "British Government Industry Cooperation Exploits Alkali Resistant Glass Fiber Reinforcement for Cement Concrete," <u>Biweekly Scientific</u> and <u>Intelligence Summary</u>, FSTC-CP-17-1Q-76, 1976, p 18.
- 37. Buckley, E. L., "Alternative Fiber Reinforcements for Portland Cement Mortar and Concrete," Report TR-7-73, Construction Research Center, University of Texas at Arlington, Texas, Apr 1973, 10 pp.
- 38. Buckley, E. L., "Assessment of the Effectiveness of Glass Fiber Reinforcement for Crack Control in Concrete," Research Report TR-1-76, Construction Research Center, University of Texas at Arlington, Texas, Apr 1976, 59 pp.
- Buckley, E. L., and Azizollahi, A., "Impact Resistance of Fiber Reinforced Concrete," TR-2-75, Construction Research Center, The University of Texas at Arlington, Arlington, Texas, Jun 1975, 27 pp.
- 40. Buckley, E. L., and Sriboonlue, W., "Development Testing of E-Glass Fiber Reinforced Mortar," Technical Report TR-3-76, Construction Research Center, The University of Texas at Arlington, Arlington, Texas, 1976.
- 41. Buckley, E. L., and Sriboonlue, W., "Investigation of the Use of E-Glass Fibers for Crack Control in Post-Tentioned Slab-on-Ground Foundations," Research Report TR-1-78, Construction Research Center, The University of Texas at Arlington, Arlington, Texas, Jan 1978, 31 pp.
- 42. Budnikov, P. P., et al, "A Rise in the Stability of Glass-Fiber in a Medium of Hardening Cement Stone," Neorgan Materialy, Izv. Akach Nauk SSSR, Vol 1, No. 7, 1965, pp 1210-1214.
- 43. Burakiewicz, A., "Testing of Fibre Bond Strength in Cement Matrix,"

 Proceedings of the International Symposium on Testing and Test

 Methods of Fibre Cement Composites, Sheffield, April 5-7, 1978.,

 The Construction Press, Ltd., Hornby, Lancaster, United Kingdom,
 1978, pp 355-365.
- 44. Byryukovich, K., "Strength of Fiberglass Concretes Over a Period of Time," (In Russian), Budiv. Mater. Konstr., No. 1, 1975, pp 40-42.
- 45. Chamberlain, J. A., "GRC in Agriculture," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 291-302.
- 46. Chen, W. F., and Yuan, R. L., "Double-Punch Test for Tensile Strength of Fibre and Polymer-Impregnated Concretes," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978)</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 511-523.

- 47. Cho, R., and Kobayashi, K., "Evaluation of Crack Arrest Ability of Fiber Reinforced Concrete by Direct Tensile Specimen With Reinforcing Bar," (In Japanese), Seisan-Kenkyu (Japan), Vol 29, No. 9, Sep 1977, pp 473-476.
- Cho, R., and Kobayashi, K., "First Cracking Strength and Extensibility of Steel Fiber Reinforced Concrete," (In Japanese), Seisan-Kenkyu, (Japan), Vol 28, No. 8, Aug 1976, pp 373-376.
- Cho, R., and Kobayashi, K., "Flexural Strength of Steel Fiber Reinforced Concrete," (In Japanese), <u>Seisan-Kenkyu</u> (Japan), Vol 29, No. 8, Aug 1977, pp 438-441.
- 50. Cho, R., and Kobayashi, K., "Load-Deformation Properties of Steel Fiber Reinforced Concrete," (In Japanese), <u>Seisan-Kenkyu</u> (Japan), Vol 28, No. 9, Sep 1976, pp 402-405.
- 51. Cho, R., and Kobayashi, K., "On the Reinforcement Principles of Steel Fiber Concrete," (In Japanese), Seisan-Kenkyu (Japan), Vol 29, No. 10, Oct 1977, pp 525-528.
- 52. Cho, R., Kobayashi, K., and Moritani, Y., "Evaluation of Crack Arrest Ability of Concrete With Steel Fibers," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete, (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 33-36.
- 53. Chromec, Yu. N., Rogozin, L. A., and Rabinovic, F. N., "The Mechanical Properties of Glass-Fibre Reinforced Plaster Building Components (Plaster Slabs)," <u>Stroitel nye Materialy</u> (Russian), No. 2, 1973, pp 21-22.
- 54. Chronis, N. P., "Three Innovations in Mine Expansion Tested at Bruceton Experimental Mine," Coal Age, Vol 80, No. 4, Apr 1975.
- 55. Cleary, M., "GRC in Highway Maintenance and Construction," The Institution of Highway Engineers, United Kingdon, Dec 1975.
- 56. "Concrete Reinforced with Glass," Civil Engr and Public Works Review (London), Vol 52, No. 615, Sep 1957, p 996.
- 57. "Convention Opens the Way for Sprayed Steel Fibrous Concrete Houses," International Construction, Oct 1976.
- 58. Corish, A. T., "Cement as a Matrix for GRC," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 17-38.
- 59. Cornelius, D. F. and Ryder, J. F., "New Fibrous Composites as Alternatives to Timber," BRE Princes Risborough Lab. Conf., The Future
 Usage of Timber in the UK, Building Research Establishment, Building Research Station, Garston, Watford, England, Jun 1974, pp 1-9.

- 60. Cost, V. T., and Watt, J. M., "Static Loading of Shallowed-Buried Model Cylinders, Phase I of III," Technical Report N-78-8, US Army Engineer Waterways Experiment Station, Vicksburg, Miss., Dec 1978, 221 pp.
- 61. Cross, S. H., O'Brien, T., Johnston, R. K., Kempster, E., Shead, F. A., and Whiting, H. G., "Meeting GRC Specifications," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 249-260.
- 62. Curtis, J. O. and Hansen, E. L., "Fiber-Reinforced Concrete for Farm Building Construction," Paper No. 74-4046, American Society of Agricultural Engineers, St. Joseph, Michigan, 1974.
- 63. Davies, G. W., "Use of GRC in the Middle East," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 275-278.
- 64. Dekierk, R., "Report on the Results of Field Trials Using Fibrous Reinforced Sprayed Concrete," South Africa, 12 Mar 1975.
- 65. Downey, D. B., "Durability of GRC Under Stress," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 117-136.
- 66. Dutton, T., and Rademan, P. R., "Glassfibre Reinforced Cement Sandwich Panels in Low Income Housing," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England), 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 223-236.
- 67. Elvery, R. H. and Samarrai, M. A., "An Examination of the Behavior of Fibres in Reinforced Concrete," Composites, Jul 1976, pp 180-184.
- Elvery, R. H. and Samarrai, M. A., "The Influence of Fibres Upon Crack Development in Reinforced Concrete Subject to Uniaxial Tension," <u>Magazine of Concrete Research</u>, Vol 26, No. 89, Dec 1974.
- 69. Eremin, I., "Mineral Wool and Its Products, Production, and Use," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- Ermolenko, N. N. and Kondrat'eva, Yu. V., "The Synthesis of Glass Fibers for Reinforcing Concrete," <u>Sb. Nauchn. Rabot</u>, Inst. Stroit. i. Arkhitekt, Akad Nauk Belorussk, SSSR, No. 4, 1960, pp 24-30.
- 71. Farahar, R. M., "Glass Reinforced Concrete," Precast Concrete (England), Vol 9, No. 11, Nov 1978, pp 559-564.
- 72. Favre, R., "Wire Reinforced and Wet Mix Shotcrete," Presented at the Fulmer Grange Seminar, Fulmer Grange, England, Jan 1976.

- 73. Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977. (24 papers and references).
- 74. <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Huvudrap-port. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, 140 pp.
- 75. "Fibre Composites in the Building Industry," Composites, 1/78.
- 76. "Fibre Concrete Materials A Report Prepared by RILEM Technical Committee 19-FRC," <u>Materials and Structures Testing and Research</u> (RILEM), Vol 10, No. 56, Mar-Apr 1977, pp 103-120.
- 77. "Fibre Skin Reinforced Concrete Tension Zone," Contract Journal, 5 Dec 1974, pp 40-41.
- 78. "Fibres in Civil Engineering," Shirley Publication S18, The Cotton, Silk, and Man-Made Fibres Research Assoc., Shirley Institute, Manchester, England, 1975.
- 79. Fordos, Z., "Glasfibres Holdbarhed I Fiberarmerede Cementbunde Materialer," BFL Internal Report No. 343, Betonforsknings laboratoriet, Karlstrup, 1974.
- 80. Fordyce, M. W., and Wodehouse, R. G., "Designing in GRC," <u>Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England), 12-14 Oct 1977)</u>, The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 97-116.
- 81. "Foundary Flips Lid Over Refractory Furnace Cover," Modern Metals, Vol II, Dec 1975, pp 31.
- 82. Fukuchi, T., and Ohama, Y., "Mechanical Properties of Fiber Reinforced Autoclaved Concrete," <u>CAJ Review of the 31st General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 166-167.
- 83. Fukuchi, T., and Ohama, Y., "Mechanical Properties of Fiber Reinforced Autoclaved Concrete," <u>Proceedings</u>, Twenty-first Japan Congress on Materials Research, The Society of Materials Science, Kyoto, Japan, 1978, pp 185-189.
- 84. Fukuchi, T., Ohama, Y., Hashimoto, H., and Sugiyama, M., "Experimental Study of Mix Design of Steel Fiber Reinforced Polymer Modified Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 50-53.
- 85. Fukuchi, T., Ohama, Y., Hashimoto, H., and Sugiyama, M., "Properties of Steel Fiber Reinforced Polymer Modified Concrete," Proceedings, Twenty-first Japan Congress on Materials Research, The Society of Materials Science, Kyoto, Japan, 1978, pp 163-165.

- 86. Fukui, Y., Ohtani, H., Nishioka, S., and Kamao, H., "Experiment of Steel Fiber Reinforced Shotcrete Using Ultra-Rapid Hardening Cement," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 172-176.
- 87. Fukumitsu, K., Moriyama, K., Nakanishi, M., Takagi, J., Ono, S., and Nara, Y., "Steel Fiber Reinforced Shotcrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 168-171.
- 88. Fukunaga, M., "GRC Window Panels for Multiple Dwelling House," (In Japanese), Cement and Concrete (Japan), No. 353, Jul 1976, pp 22-26.
- 89. Gaevksaya, A. I., "Protection of Glass Fiber from Corrosion in a Medium of Hardening Concrete," <u>Tr. Kievsk. Politeckhn. Inst.</u>, Vol 43, 1963, pp 16-20.
- 90. Galloway, J. W., and Gregory, J. M., "Trial of a Wire-Fiber-Reinforced Concrete Overlay on a Motorway," TTRL Laboratory Report No. 764, Transport and Road Research Laboratory, Crowthorne, Berkshire, 1977, 22 pp.
- 91. "Glass Fiber Reinforces Self-Supporting Concrete Roof," Engineering News-Record, 28 Apr 1977, p 17.
- 92. "Glass Fiber Reinforcing Lightens a Bank," Engineering News Record, Sep 14, 1978, p 20-21.
- 93. "Glassfibre Reinforced Cement Composites 1," Precast Concrete (London), Vol 8, No. 9, Sep 1977, pp 447-453.
- 94. "Glass Fiber to Concrete Bond is Found; Application to Large Water Piping Seen," Air Conditioning, Heating, and Refrig., May 1960.
- 95. "Glass Fibers Reinforce Concrete Structures," Chem. and Engrg. News, Vol 44, 24 Oct 1966, pp 53-54.
- "Glass Fibers Used in Concrete," Report J1, Franklin Institute, May 1960, p 429.
- 97. Golosova, L. V., "Stability of Fibres of an Alumina-Borosilicate Glass Composition in a Gypsum Alumina Cement," (In Russian), Steklo I Keramika, No. 6, 1976, pp 18-20.
- 98. Gota, Y., Muramoto, N., and Imahashi, S., "Development of Steel Fiber Reinforced Mortar Roof Tile," <u>CAJ Review of the 31st General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 167-169.
- 99. Granchich, A., "Bearing Capacity and Durability of Pavements with a Thin Wire Concrete Surfacing," <u>Inzhenyrske Stavby</u> (Czechoslovakia), Vol 25, No. 1, 1977, pp 8-16.

- 100. Gray, R. J., and Johnston, C. D., "The Measurement of Fibre-Matrix Interfacial Bond Strength in Steel Fibre Reinforced Cementitious Composites," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 317-328.
- 101. "GRC Cement Sheet Piling," NZ Concrete Construction (New Zealand), Vol 21, No. 4, Apr 1977, pp 18-19.
- 102. "GRC Cladding Panels Used as Form Panels," (In Japanese), Nikkei Architecture, No. 51, Mar 6, 1978, pp 94-98.
- 103. "GRC for System Building (Commercial, Trade, and Business Reports Section)," <u>Precast Concrete</u> (London), Vol 9, No. 8, Aug 1978, p 401.
- 104. "GRC Furnishes the Street," <u>Precast Concrete</u> (London), Vol 6, No. 2, Nov 1975, p 602.
- 105. "GRC Goes Underground," <u>Composites</u>, Composites News, Jan 1977, p 8.
- 106. "GRC in Middle East (Commercial Trade and Business Reports Section)," Precast Concrete (England), Vol 9, No. 11, Nov 1978, p 583.
- 107. "GRC Reinforcement Spacers (Plant, Equipment, and Materials Section)," Precast Concrete (London), Vol 9, No. 8, Aug 1978, p 400.
- 108. Green, M. F., Oakley, D. R., and Proctor, B. A., "Tensile Testing of Glass Reinforced Cement Sheet," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, April 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 439-449.</u>
- 109. Guest, C., "The Properties of Slag Cement Concretes Incorporating Wirand," British Steel Corporation, Sheffield, England, Oct 1974 (Available from NTIS, PB-238 172).
- 110. Hackman, L. E., and Baker, R., "Engineering Steel Fiber Reinforced Refractories," Paper presented at the American Ceramic Society Annual Meeting, May 1977.
- 111. Hanna, A. N., "Steel Fiber Reinforced Concrete Properties and Resurfacing Applications," Research and Development Bulletin RD049.01P, Portland Cement Association, Skokie, Illinois, 1977, 18 pp.
- 112. Hans-Erik, G., Fagerlund, G., and Skarendahl, A., "Testing Frost Resistance of Fibre Concrete," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, April 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 503-509.</u>

- 113. Harada, T., "Glass Fiber Reinforced Cement and Concrete," (In Japanese), Metals (Kinzoku) (Japan), Vol 46, No. 6, Jun 1976, pp 57-62.
- 114. Havill, J. B., "Thin-Shell Sculpture in Mortar," Concrete Construction, Vol 22, No. 6, Jun 1977, pp 313-315.
- 115. Hellstrom, B. and Skarendahl, A., "Anvandning Av Fiberarmerad Betong Som Skyddsvallsbelaggning," Report 7420, Cement och Betonginstitutet, Stockholm, Sweden, 1974, 10 pp.
- 116. Henager, C. H., "A Toughness Index for Fibre Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 79-86.
- 117. Henager, C. H., "Steel Fibrous, Ductile Concrete Joint for Seismic-Resistant Structures," Reinforced Concrete Structures in Seismic Zones, ACI Special Publication SP-53, American Concrete Institute, Detroit, 1977, pp 371-386.
- 118. Henager, C. H., "Summary Wirand Shotcrete Experience European Trip," Battelle Memorandum, Battelle Memorial Institute, Pacific Northwest Laboratories, Richland, Washington.
- 119. Henager, C. H., "The Technology and Uses of Steel Fibrous Shotcrete A State-of-the-Art Report," Battelle Development Corp., Pacific Northwest Laboratories, Richland, Washington, Sep 1977, 60 pp.
- 120. Henager, C. H., "Wirand 90-Day Test Results Shotcrete Experiment,"
 Battelle Letter Report, 16 Sep 1971, Battelle Memorial Institute,
 Pacific Northwest Laboratories, Richland, Washington.
- 121. Henager, C. H., "Wirand Shotcrete Bureau of Mines," Battelle Memorandum, 21 May 1971, Battelle Memorial Institute, Pacific Northwest Laboratories, Richland, Washington.
- 122. Henager, C. H., "Wirand Tests Results Bureau of Mines Shotcrete Experiment," Battelle Memorandum, 25 Jun 1971, Battelle Memorial Institute, Pacific Northwest Laboratories, Richland, Washington.
- 123. Hibbert, A. P. and Hannant, D. J., "The Design of an Instrumented Impact Test Machine for Fibre Concretes," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 107-120.
- 124. Hirasawa, M., "Shear Characteristics of Steel Fiber Reinforced Concrete Beams," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 97-100.
- 125. Hjort, L., "Metoder Til Vurderning Af Fiber-orientering Og Fiber-fordelning I Glasfiberarmeret Cementpasta (Fibre Orientation and Fiber Distribution Examination Methods), <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp F1-F10 (In Swedish).

- 126. Hollington, M. R., "The Development of Wire Fibre Reinforced Manhole Cover and Frame," Conference on Fibre Reinforced Concrete and Other Fibre Reinforced Building Materials, Delft University of Technology, Delft, 1973, pp 177-179.
- 127. Houghton, D. L., Borge, O. E., and Paxton, J. A., "Cavitation Resistance of Some Special Concretes," <u>Proceedings</u>, <u>American Concrete Institute</u>, <u>Journal</u>, Vol 75, No. 12, Dec 1978, pp 664-667.
- 128. Hughes, B. P. and Fattuhi, N. I., "Assessing the Workability of Steel Fibre Reinforced Concrete," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 57-60.
- 129. Hughes, B. P. and Fattuhi, N. I., "Improving the Toughness of High Strength Cement Paste with Fibre Reinforcement," Composites, Jul 1976, pp 185-188.
- 130. Hughes, B. P., and Fattuhi, N. I., "Load-Deflection Curves for Fibre Reinforced Concrete Beams in Flexure," Magazine of Concrete Research (London), Vol 29, No. 101, Dec 1977, pp 199-206.
- 131. Hughes, B. P., and Fattuhi, N. I., "Methods and Recommendations for Testing Fibre Reinforced Concrete," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 409-416.</u>
- 132. Hughes, B. P. and Fattuhi, N. I., "Predicting the Flexural Strength of Steel and Polypropylene Fibre-Reinforced Cement-Based Beams, Composites, Jan 1977, pp 57-61.
- 133. Hutchens, W. S., "Custom Architectural Panels," <u>Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977)</u>, The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 303-308.
- 134. Ibukiyama, S., "Applications of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, p 1-4.
- 135. Ichikawa, Y., and Nelson, L. A., "Fiber Reinforced Composite Refractory Insulation System," Refractory Concrete, American Concrete Institute, Detroit, SP-57, 1978, pp 265-282.
- 136. Ichimura, H., "Glassfibre Reinforced Cement," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 147-158.
- 137. Imahashi, S., and Goto, Y., "The Efficiency of Fibrous Reinforcement in Glass Fibre Reinforced Cement," <u>CAJ Review of the 30th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 267-269.

- 138. Imahashi, S., and Goto, Y., "The Effect of the Interfacial Bond Strength in Glass Fiber Reinforced Cement," <u>CAJ Review of the 30th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 266-267.
- Imoto, T., "GRC," (In Japanese), <u>Valgua Review</u>, Vol 21, No. 1, pp 22-28, 1977.
- 140. Imoto, T., "Trend of Alkali Resistant Glass Fiber," (In Japanese), Engineering Materials (Kogyo Zairyo) (Japan), Vol 24, No. 6, Jun 1976, pp 55-60.
- 141. Ishii, Y., "Properties of Alkali Resistant Glass Fiber," (In Japanese), <u>Kasai</u> (Japan), Vol 26, No. 4, 1976, pp 27-30.
- 142. Iskerwood, C., "Tapecrete: A New Kind of Surfacing Material," Engineering Journal, Jan/Feb 1976, pp 68-69.
- 143. Izumi, I., "A Study of Alkali-Resistant Glass Fiber Reinforced Cement," (In Japanese), Takenake Technical Research Report, No. 18, Oct 1977, pp 83-91.
- 144. Izumi, I., "Fiber Distribution and Orientation in Steel Fiber Reinforced Concrete," (In Japanese), <u>Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977)</u>, Japan Concrete Institute, Tokyo, Nov 1977, pp 17-20.
- 145. Jackson, G. W., "Ferro Cement and the Edwin Fox," <u>Journal of Ferrocement</u> (New Zealand), Vol 5, No. 6/7, pp 36-37.
- 146. Jamrozy, Z., "Lightweight Aggregate Concrete With Steel Fibre Admixtures," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 121-127.
- 147. Johnston, C. D., and Gray, R. J., "Uniaxial Tensile Testing of Steel Fibre Reinforced Cementitious Composites," <u>Proceedings of</u> the International Symposium on Testing and Test Methods of Fibre <u>Cement Composites, Sheffield, Apr 5-7, 1978, The Construction</u> Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 451-461.
- 148. Jones, J. and Lutz, T. P., "Glass Fiber Reinforced Concrete Products Properties and Applications," <u>Journal</u>, <u>Prestressed Concrete Institute</u>, Vol 22, No. 3, May-Jun 1977, pp 80-103.
- 149. Kaden, R. A., "Fiber-Reinforced Shotcrete," Presented at the Engineering Foundation Conference, "Shotcrete for Ground Support," 2-8 Oct 1976, Easton, MD.
- 150. Kaden, R. A., "Fibrous Concrete Lower Monumental Lock and Dam and Polymer Treatment Fibrous Concrete Repair, Dworshak Dam," Presented at the short course on "Steel Fibrous Concrete Properties, Applications, and Research Results," Joint Center for Graduate Study, Richland, Washington, 4-6 Aug 1975.

- 151. Kaden, R. A., "Fibrous Shotcrete and Selected Structural Applications," Presented at the World of Concrete, Fiber Reinforced Concrete Seminar, Jun 1976, Las Vegas, Nevada.
- 152. Kaden, R. A., "Field Placement of Fibrous Shotcrete on Ririe Dam," Presented at the short course "Introduction to Steel Fibrous Concrete," Joint Center for Graduate Study, Richland, Washington, 16-18 Jul 1973.
- 153. Kameda, Y., Abe, I., Koizumi, H., Akihama, S., Mori, N., and Kuramochi, Y., "Steel Fiber Reinforced Concrete for Building Components," (In Japanese), <u>Cement and Concrete</u> (Japan), No. 354, Aug 1976, pp 28-36.
- 154. Kameda, Y., Akihama, S., Bessho, S., Okamoto, K., Fukushima, M., and Sakano, T., "RC Members Using Steel Fiber Reinforced Concrete for High-Rise Buildings," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 109-112.
- 155. Kameda, Y., Koizumi, H., Akihama, S., Mori, N., Suenaga, T., Kuramochi, Y., and Sakano, T., "Research and Development of Steel Fiber Reinforced Concrete, (Part 3)," (In Japanese), Annual Report of Kajima Institute of Construction Technology (1976), Vol 25, Jun 1977, pp 167-172.
- 156. Kameda, Y., Koizumi, H., Akihama, S., Mori, N., Suenaga, T., Sakano, T., and Yamakawa, S., "On the Rust Prevention of Steel Fiber Reinforced Concrete Panels," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 64-67.
- 157. Kameda, Y., Koizumi, H., Morita, H., Akihama, S., Mori, N., and Katagiri, S., "Research and Development of Steel Fiber Reinforced Concrete (Part 1)," (In Japanese), Annual Report of Kajima Institute of Construction Technology (1974) (Japan), Vol 23, Jun 1975, pp 215-222.
- 158. Kameda, Y., Koizumi, H., Morita, H., Akihama, S., Saeki, T., Mori, N., Tsubuta, C., Kuramochi, Y., and Sakano, T., "Research and Development of Steel Fiber Reinforced Concrete (Part 2)," (In Japanese), Annual Report of Kajima Institute of Construction Technology (1975) (Japan), Vol 24, Jun 1976, pp 207-212.
- 159. Kamesvara-Rao, C. V. S., "A Non-Destructive Indentation Test for Fibre Reinforced Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 525-530.
- 160. Kamio, T., Matsuda, O., and Nakano, H., "Extrusion Molding of Steel Wire Reinforced Cement Products," (In Japanese), Cement and Concrete (Japan), No. 358, Dec 1976, pp 28-33.

- 161. Kamio, T., Matsuda, O., and Nakano, H., "Extrusion of Cement Products Reinforced by Steel Wire," CAJ Review of the 30th General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1976, pp 274-276.
- 162. Kamio, T., Matsuda, O., and Nakano, H., "Lightweight Cement Products by Extrusion Molding," CAJ Review of the 31st General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1977, pp 256-258.
- 163. Karlsson, I., Westberg, S., and Moller, G., "Provning Av Fiber-armerade Spannbetongbalkar," Report No. CU 75:75, Cementa, Malmo, 1975, 30 pp.
- 164. Kasperkiewicz, J., "Apparent Spacing in Fiber Reinforced Composites," Bulletin De L Academie Polonaise Des Sciences, Sevie Des Sciences Techniques, Vol 16, No. 1, 1978, pp 1-9 (In Polish).
- 165. Kasperkiewicz., J., "Fibre Spacing in Steel Fibre Reinforced Composites," <u>Materials and Structures</u>, <u>Research and Testing</u>, Vol 10, No. 55, Jan-Feb 1977, pp 25-31 (Also Research Paper, Institute of Fundamental Technological Research, Polish Academy of Sciences, Warsaw, Poland, 1976).
- 166. Kasperkiewicz, J., "Reinforcement Parameter for Fiber Concrete," Bulletin De L Academie Polonaise Des Sciences, Sevie Des Sciences Techniques, Vol 16, No. 1, 1978, pp 11-18 (In Polish).
- 167. Kasperkiewizc, J., "Theoretical Formulea Concerning Fibre Reinforced Concrete-Like Composites," CBI Report 7413, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1974, 46 pp.
- 168. Kasperkiewicz, J., Malmberg, B., and Skarendahl, A., "Determination of Fibre Content, Distribution, and Orientation in Steel Fibre Concrete by X-Ray Technique," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 297-305.
- 169. Kasperkiewicz, J., and Skarendahl, A., "Matmetod for Bestamning Av Betong-materials Hallfasthet och Deformations-formaga Vid," CIB-Forskning-Report 7414, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1974, 13 pp.
- 170. Kavyrchine, K., and Astruc, M., "Impact Testing Equipment for Structural Elements," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 129-138.
- 171. Kishitani, K., "Development of Glass Fiber Reinforced Cement," (In Japanese), Building Letter (Japan), No. 1, 1978, pp 1-11.
- 172. Kishitani, K., and Maeda, K., "Study of Crack Arrest Ability of Steel Fiber Reinforced Concrete," (In Japanese), <u>Proceedings of the Symposium on Steel Fiber Reinforced Concrete</u>, (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 29-32.

- 173. Kishitani, K., and Mori, N., "Replacement Effects of Asbestos with Various Fibers upon Physical Properties of Asbestos Cement Hardened Body," CAJ Review of the 29th General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1975, pp 267-268.
- 174. Kitada, Y., and Hara, T., "Shear Strength of Reinforced Concrete Beams with Steel Fibers," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 89-92.
- 175. Klink, S., "Fycrete Glass Fibre Reinforce Plastics to Strengthen Concrete Structure," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 176. Klos, H., Asbestzement, Technologie und Projektierung, Springer-Verlag, 1967, Berlin.
- 177. Kobayashi, K., "Cracks in Flexure of Steel Fiber Reinforced Concrete Beams," (In Japanese), <u>Doboku-Gijutsu Shiryo</u> (Japan), Vol 19, No. 1, Jan 1977, pp 21-25.
- 178. Kobayashi, K., "Current Research and Development on Steel Fiber Reinforced Concrete in Japan," <u>Transactions of the Japan Society for Composite Materials</u>, Vol 3, No. 12, Dec 1977, pp 1-5.
- 179. Kobayashi, K., "Fiber Reinforced Concrete A Review," (In Japanese), Concrete Journal (Japan), Vol 13, No. 8, Aug 1975, pp 21-28.
- 180. Kobayashi, K., "Fiber Reinforced Concrete Its Properties and Applications," (In Japanese), <u>Bridge Engineering</u> (Kyoryo), Vol 13, No. 4, Apr 1977, pp 46-51, 57.
- 181. Kobayashi, K., "Steel Fiber Reinforced Concrete and Its Application," (In Japanese), Cement and Concrete (Japan), No. 345, Nov. 1975, pp 30-34.
- 182. Kobayashi, K., "Steel Fiber Reinforced Shotcreting," (In Japanese), Cement and Concrete (Japan), No. 373, Mar 1978, pp 2-9.
- 183. Kobayashi, K., "The State-of-the Art Review of Steel Fiber Reinforced Concrete," (In Japanese), Metals (Kinzuku) (Japan), Vol 47, No. 5, May 1977, pp 22-25.
- 184. Kobayashi, K., and Cho, R., "Mechanics of Concrete with Randomly Oriented Short Steel Fibers," (In Japanese), Seisan-Kenkyu (Japan), Vol 28, No. 7, Jul 1976, pp 324-326.
- 185. Kobayashi, K., and Cho, R., "Reinforcement Principles of Steel Fiber Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 5-8.
- 186. Kobayashi, K., and Cho, R., "Strength and Deformation of Steel Fiber Reinforced Concrete in Uniaxial Tension," (In Japanese), Proceedings, Japan Society of Civil Engineers, No. 257, Jan 1977, pp 85-94.

- 187. Kobayashi, K., and Cho, R., "Test Method for Estimating First Crack Strength of Steel Fibre Reinforced Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 417-422.
- 188. Kobayashi, K., Hirasawa, A., and Morihasi, H., "Steel Fiber Reinforced Concrete Pipe Manufactured by Centrifugal Process," (In Japanese), Semento Gijutsu Nempo (Japan), Vol 29, 1975, pp 474-477.
- 189. Kobayashi, K., Hirasawa, A., and Morihashi, H., "Study of Steel Fiber Reinforced Concrete Pipe Manufactured by Centrifugal Process," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 50-54.
- 190. Kobayashi, K., and Inoue, T., "Concrete Pavement Using Steel Fibers," (In Japanese), Concrete Journal (Japan), Vol 14, No. 6, Jun 1976, pp 50-54.
- 191. Kobayashi, K., Itoh, T., and Hoshino, T., "Effect of Fiber Geometry on the Properties of Steel Fiber Reinforced Concrete," (In Japanese), Monthly Journal of Institute of Industrial Science, University of Tokyo (Seisan-Kenkyu), Vol 26, No. 12, Dec 1974, pp 531-533.
- 192. Kobayashi, K., and Kimachi, Y., "Improvement of Ductility of Concrete Through the Additional of Polymer Dispersions and Steel Fibers," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 46-49.
- 193. Kobayashi, K., and Kimachi, Y., "Improvement of Ductility of Concrete Through the Addition of Steel Fiber and Polymer Dispersions," (In Japanese), Proceedings of the Japan Society of Civil Engineers, No. 269, Jan 1978, pp 135-145.
- 194. Kobayashi, K., Kokubu, S., and Okamura, Y., "Experimental Study of Mix Design of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete, (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 113-116.
- 195. Kobayashi, K., and Mori, T., "Resistance to Freezing and Thawing of Steel Fiber Reinforced Concrete," (In Japanese), Seisan-Kenkyu (Japan), Vol 28, No. 9, Sep 1976, pp 399-401.
- 196. Kobayashi, K., and Okamura, Y., "Experimental Study on Consistency of Steel Fiber Reinforced Concrete," (In Japanese), Seisan-Kenkyu (Japan), Vol 28, No. 2, Feb 1976, pp 62-65.
- 197. Kobayashi, K., Sanno, H., and Mutsuyoshi, H., "Study of Fiber Distribution and Orientation in Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 21-24.

- 198. Kohno, K., "Review on Fiber Reinforced Concrete," (In Japanese), Journal of the Society of Materials Science, Japan, Vol 26, No. 290, Nov 1977, pp 1061-1071.
- 199. Kohno, K., Inaba, Y., Yamanaka, N., and Nohda, S., "Vibrating Compaction of Fiber Reinforced Concrete and Test of Concrete Flagstone," CAJ Review of the 31st General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1977, pp 247-248.
- 200. Kohno, K., Nakano, K., Nakahara, Y., and Yurugi, M., "Pavement Applications of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 156-159.
- 201. Kohno, K., and Nohda, S., "Effect of Pressure on Quality of Pressmolded Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 41-45.
- 202. Kohno, K., Nohda, S., Yamanaka, N., and Inaba, Y., "Mix Proportioning of Steel Fiber Reinforced Concrete and Test of Concrete Flagstone," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 72-75.
- 203. Komlos, K., "Mechanical Properties of Concretes Reinforced by Accidentally Dispersed Steel Fibers," (In Czechoslovakian), <u>Stavivo</u>, Vol 23, No. 12, 29 Dec 1975, pp 373-377.
- 204. Komlos, K., "State-of-the-Art Report on Concrete Reinforced with Randomly Spaced Fibres," <u>Stavebnicky Casopis</u> (Bratislava), Vol 25, No. 4, Apr 1977, pp 263-281, (In Slovak).
- 205. Komlos, K., "Testing of Fibre Reinforced Concretes in Their Fresh States," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 45-56.
- 206. Komlos, K., "Uber Verformungseigenschaften des faserbewehrten Betons beieinachsiger Zugbeanspruchung (Deformation of Fiber Reinforced Concrete by Uniaxial Tensile Stress)," <u>Materialpruf</u>, Vol 17, No. 9, Sep 1975, pp 328-329.
- 207. Kothari, N. C., and Bonel, E. A., "Strength Properties of Concrete Reinforced With Epoxy-Coated Steel Fibers," <u>Proceedings, American</u> Concrete Institute, Journal, Vol 75, No. 10, Oct 1978, pp 550-553.
- 208. Krenchel, H., "Fiberarkmetoden (The Fibre Tissue Lamination Method," Fiberbetong, NORDFORSK's projektkommitte for FRC-material, Delvap-porter. Cement och betonginstitutet, Fack, Stockholm, Sweden, 1977, pp G1-G11 (In Swedish).
- 209. Krenchel, H., "Fibre-Fremstelling Og Egenskaper (Fibres Production and Properties)," <u>Fiberbetong</u>, NORDFORSK's projektkommittee for FRC-material, Delvapporter. Cement och begonginstitutet, Fack, Stockhom, Sweden, 1977, pp Al-A23, (In Swedish).

- 210. Krenchel, H., "Mekaniske Egenskaber Ved Korttidsbelastning, FRC-Materiale Med Anden Armering End Stalfibre (Mechanical Properties Under Short-Term Loading, FRC-Materials with Other Reinforcement Than Steel Fibres)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp M1-M19 (In Swedish).
- 211. Krenchel, H. and Miller, A., "Slagseghet, Metodstudie (Impact Strength, Method Study)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockhom, Sweden, 1977, pp R1-R15 (In Swedish).
- 212. Krukar, M. and Cook, J. C., "Wear Performance Comparisons of Steel Fibrous Concretes with Portland Cement and Polymer Concretes," Presented at the 53rd Annual Meeting of the Highway Research Board, Washington, D. C., 21-25 Jan 1974, Department of Civil and Environmental Engineering, Washington State University.
- 213. Kubota, K., "Steel Fiber Reinforced Concrete Pavement," (In Japanese), The <u>Doboku-Seko</u>, (Japan), Vol 17, No. 14, Dec 1976, pp 65-70.
- 214. Kurbatov, L. G. and Duptsov, A. A., "Saturation of Close Grained Concrete with Steel Fibers According to Their Parameters," Sbornik Trudov Leninar. Inzhenerno-Stroitel. Inst. (Leningr.) No. 114, 1976, pp 46-53.
- 215. Kurstens, D., "Industrial Manufacture of GRC Products with Regulated-Set Cement," <u>Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England), 12-14 Oct 1977)</u>, The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 197-200.
- 216. Kuznetsova, L. G., Andrianova, V. A., and Cherkinskii, Yu. S., "Glass Fiber Reinforced Cement With Increased Alkali Resistance," (In Russian), <u>Stroitelnykk Materiolov (Moscow)</u>, Sbornik Trudov, Vsesoyuznyy Nauchno-Issledovatelskiy Institutnovykh, No. 32, 1972, pp 94-102.
- 217. Lankard, D. R., "Fiber Reinforced Cement and Concrete Composites," Presented at the 76th Annual Meeting of the American Ceramic Society, Chicago, Illinois, 28 Apr-2 May 1974. Available from Battelle, Columbus Laboratories, Columbus, Ohio.
- 218. Lankard, D. R., "Guniting Experiment Second Trial," Battelle Memorandum, 11 May 1971, Battelle Memorial Institute, Columbus Laboratories, Columbus, Ohio.
- 219. Lankard, D. R., "Steel Fiber Reinforced Refractory Concrete," Presented at the 1977 Annual Convention, American Concrete Institute, San Diego, California, 13-18 Mar 1977, Battelle, Columbus Laboratories, Columbus, Ohio.
- 220. Lankard, D. R., "Steel Fiber Reinforced Refractory Concrete," Refractory Concrete, American Concrete Institute, Detroit, SP-57, 1978, pp 241-263.

- 221. Lankard, D. R., "Wirand Concrete Guniting Experiment," Battelle Memorandum, 10 Mar 1971, Battelle Memorial Institute, Columbus Laboratories, Columbus, Ohio.
- 222. Lankard, D. R., et al, "Field Experiences With Steel Fibrous Concrete," Presented at meeting of American Ceramic Society, Chicago, Illinois, 26 Apr 1971.
- 223. Lankard, D. R. and Walker, A. J., "An Investigation of Fibre/Matrix Bond Development in Wirand Concrete," Battelle Columbus Laboratories, Columbus, Ohio, Feb 1975, 32 pp.
- 224. Lapotnikov, V., "Autoclave Method of Production of Sheets and Pipes in the USSR," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 225. Laws, V., and Walton, P. L., "The Tensile-Bending Relationship for Fibre Reinforced Brittle Matrices," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 429-438.
- 226. Lee, J. A., "Modifiers and Additives for GRC-A Review," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 39-50.
- 227. Lee, J. A., and Cole, B. J., "Density and Porosity Determinations on Glass Reinforced Cement Composites," <u>Proceedings of the International Symposium on Testing and Test Methods of the Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 187-189.</u>
- 228. Lee, J. A., and West, T. R., "Measurement of Drying Shrinkage of Glass Reinforced Cement Composites," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 149-159.
- 229. Lobanov, I. A., Kopatskiy, A. V., Talantov, K. V. and Malyshev, V. F., Sbornik Trudov Leningr. Inzhenerno-Stroitel Inst. (Lenigr.), No. 114, 1976, pp 32-42.
- 230. Lobanov, I. A. and Talantova, K. V., "Features of the Selection of Steel Fiber Concrete," Sbornik Trudov Leningr. Inzhenevno-Stroitel. Inst. (Leningr.), No. 114, 1976, pp 22-32.
- 231. Lott, J. L. and Abdel-Malek, R. A., "Evaluation of the Response of Fiber Concrete Pavement Systems," Presented at the Intersociety Conference on Transportation, 18-24 Jul 1976, Development Engineers, Naperville, Illinois.
- 232. Lowe, R. A., "Fibrous Concrete Construction at Reno and Las Vegas Airports (Abridgement)," Special Report 1975, Researching Airport Pavements, Transportation Research Board, National Academy of Sciences, Washington, DC, 1978, pp 67-68.

- 233. Lozinski, W., and Michalski, B., "Application of Birefringement Coating Method to Investigation of Steel Fibre Reinforced Concrete Specimens," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 423-428.
- 234. Luckett, P. R., "Semi-Automatic Spray Production of GRC," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 173-178.
- 235. Maage, M., "Bond Properties Between Steel Fibers and Cement Paste, Mortar and Concrete," (In Norwegian), Divison of Building Materials, Norwegian Institute of Technology, University of Trondheim, 1976, 195 pp.
- 236. Maage, M., "Fibre Bond and Friction in Cement and Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Homby, Lancaster, United Kingdom, 1978, pp 329-336.
- 237. Maage, M., "Hefteigenskapar Mellam Stalfiber Og Cementbasert Matris (Bond Properties Between Steel Fiber and Cement-Based Matrix)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvap-porter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp D1-D37 (In Swedish).
- 238. Maage, M., "Interaction Between Steel Fibers and Cement Based Matrixes," <u>Materials and Structures, Research and Testing</u> (Paris), Vol 10, No. 59, Sep-Oct 1977, pp 297-301.
- 239. Maage, M., "Mekanisk Slitasje Pa Fiberarmert Betong (Mechanical Wear on Fiber-Reinforced Concrete)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betong-institutet, Fack, Stockholm, Sweden, 1977, pp Ql-Q15 (In Swedish).
- 240. Maage, M., "Metoclav for Maling Av Heft Og Friksjon Mellom Fiber Og Matris (Methods for measuring Bond and Friction Between Fiber and Matrix)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement och betonginstitutet, Fack, Stockholm, Sweden, 1977, pp C1-C20 (In Swedish).
- 241. Mach, L., "Fibrous Substitution of Asbestos," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 242. Majumdar, A. J., "Glass Fibre Reinforcement of Inorganic Building Materials," ID/WG.44/2, United Nations Industrial Development Organization Expert Working Group Meeting on Fibro-Cement Composites, Vienna, 20-24 Oct 1969.

- 243. Majumdar, A. J., "Properties of Glass Fibers in Cement Environment," Current Paper No. 24/77, Building Research Station, Building Research Establishment, Garston, Watford, England, 1977, 9 pp (also Journal of Materials Science, Vol 12, No. 5, 1977, pp 927-936).
- 244. Malmberg, B., "Metoder For Bestamning Av Fibermangd, Orientering Och Fordelning I Stal-Fiberarmerad Betong (Methods for Estimation of Content, Orientation and Distribution of Fibres in Steel Fibre Reinforced Concrete," Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp E1-E26 (In Swedish).
- 245. Malmberg, B., "Stalfiberbetong Under Fri Och Forhindrad Krynpning (Steel Reinforced Concrete Under Free and Restrained Shrinkage)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp P1-P19 (In Swedish).
- 246. Malmberg, B. and Ostfjord, S., "Faltforsok Med Stal-Fiber-Armerad Sprutbetong Vid Scan-Raff, Brofjorden, (Field Test of Steel Fibre Reinforced Shotcrete at Scan-Raff, Brofjorden)," Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp Y1-Y16 (In Swedish).
- 247. Malmberg, B. and Ostfjord, S., "Fiberarmerad Sprutbetong Inverkan Av Fibergeometri, Tillsatsmedel Och Matrissammansattning," Stab-5, Cement och Begoninstitutet, Fack, Stockholm, Sweden, 1976, 31 pp.
- 248. Malmberg, B., and Skarendahl, A., "Determination of Fibre Content, Distribution, and Orientation in Steel Fiber Concrete by Electromagnetic Technique," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 289-295.
- 249. Malmberg, B., and Skarendahl, A., "Method of Studying the Cracking of Fibre Concrete Under Restrained Shrinkage," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 173-179.
- 250. Mangat, P. S., and Swamy, R. N., "Some Properties of Fibre-Polymer Concrete Systems," <u>Materials and Structures, Research and Testing</u> (Paris), Vol 10, No. 60, Nov-Dec 1977, pp 339-349.
- 251. Manzhurnet, V., et al, "Corrosion Protecting of Glass Fiber in Hardening Concrete," <u>Budiv. Mater. Konst.</u>, Vol 2, 1966, p 17-18.
- 252. Matsuo, H., Satoh, M., and Kobayashi, K., "Machinery Foundation Applications of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 160-163.

- 253. Mattisson, L. B., "Hallfasthets Deformations Och Fuktegenskaper Hos Betong Forstarkt Med Stalfiber Och Polymerimpregnering," Byggnadsmateriallara LTH, 1971, Lund, Sweden, 27 pp.
- 254. McDonald, J. E., and Liu, T. C., "Concrete for Earth Covered Structures," Miscellaneous Paper C-78-15, US Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss., Sep 1978, 31 pp.
- 255. Meyer, A., "Germany's First Glass Fiber Reinforced Concrete Shell Roof," <u>Proceedings</u>, <u>American Concrete Institute</u>, <u>Journal</u>, Vol 75, No. 11, Nov 1978, pp N8-N10, N13-N17.
- 256. Meyer, A., "GRC Roofing Sheel in Stuttgart," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 263-266.
- 257. Meyer, A., "Repairs to a Reinforced Concrete Chimney with Glass Fiber-Reinforced Concrete," (In German), <u>Beton Herstellung and Verwendung</u> (Dusseldorf), Vol 27, No. 10, Oct 1977, pp 383-386.
- 258. Meyer, A., and Steinegger, H., "Repair of Steel Reinforced Concrete Chimney by Glass Fibre Reinforced Cement (GRC)," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 271-274.
- 259. Mikhail, R. S., Dollimore, D., Stinc, R., and Youssef, A. M., "Surface and Pore Structure of Fibre Reinforced Clinker Pastes: Aging Effects," <u>II Cemento (Roma)</u>, Vol 73, No. 4, Oct-Dec 1976, pp 177-186, (In Italian and English).
- 260. Mikhail, R., Abdel-Khalik, M., Hassanein, A., Dollimore, D., and Stino, R., "Mechanical Properties in Relation to the Microstructure of Fibre Reinforced Portland Clinker Pastes," Cement and Concrete Research, Vol 8, No. 6, Nov 1978, pp 765-773.
- 261. Mikhailov, K. V. and Litvinov, R. G., "Effect of the Chemical Medium of Concrete on Strength Properties of Glass Fibers," Akad. Stroit. i Arkhiterkt. SSSR Ural'sk. Filial, Sb. Tr., 1963, pp 242-254.
- 262. Miller, A., "Funktionskrav for Barande Golv-Och Yttertakspaneler Av Fiberbetong (Functional Requirements for Loadbearing Floor and Roof Panels of Fibre-Reinforced Concrete)," <u>Fiberbetong</u>, HORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp V1-V14 (In Swedish).
- 263. Miller, A., "Funktionskrav for Icke Barande Skivor Monterade Pa Reglar (Functional Requirements for Non-Loadbearing Panels Fitted to Studs)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp U1-U23 (In Swedish).

- 264. Miller, A., "Magnetisk Fiberorientering (Magnetic Orientation of Steel Fibers)," <u>Fiberbetong</u>, NORDFORSK's projecktkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp II-II4 (In Swedish).
- 265. Miller, A. and Skarendahl, A., "Stalfiberarmerad Betong, Forsok Med Magnetorientering Och Varierande Fibergeometri," CBI-Forskning -Report 7514, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1975, 33 pp.
- 266. Moens, J., and Nemegeer, D., "Flexural Strength of Fibre Reinforced Concrete Test Beams," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 389-397.</u>
- 267. Mohan, D., and Rehsi, S. S., "Steel Fibre Reinforced Concrete Roofing Units," <u>Indian Concrete Journal</u> (Bombay), Vol 51, No. 12, Dec 1977, pp 370-373.
- 268. Mori, S., Kawano, T., and Tanaka, I., "Studies on Improvement of Cement Mortar with PVA Fiber," (In Japanese), <u>Journal of Research</u> of the Onoda Cement Company, Japan, Vol 16, No. 3, 1964, pp 117-131.
- 269. Morishima, K., Tashiro, Y., Miyamoto, K., Miya, I., Kakimi, N., and Yamakawa, S., "The Properties of High Strength Concrete Mixed with Steel Fiber," <u>CAJ Review of the 28th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1974, pp 158-159.
- 270. Morse, D. C. and Williamson, G. R., "Corrosion Behavior of Steel Fibrous Concrete," Report No. CERL-TR-M-217, Construction Engineering Research Laboratory, Champaign, Illinois, May 1977, 37 pp.
- 271. Motqi, S., and Urushibava, K., "Alkali-Resistant Glassy Fibers and Their Composites," (In Japanese), Gypsum and Lime (Japan), No. 140, 1976, pp 25-34.
- 272. Mukai, T., and Hisa, M., "Studies on the Fundamental Properties of Steel Fiber Reinforced Mortar and Concrete," <u>CAJ Review of the 30th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 273-274.
- 273. Murphy, P., "Australian Firm Unveils Low-Cost Housing System," Modern Concrete, Vol 42, No. 6, Oct 1978, pp 63-67.
- 274. Naaman, A. E., and Shah, S. P., "Pull-Out Mechanism in Steel Fiber-Reinforced Concrete," <u>Journal of the Structural Division</u>, ASCE, Vol 102, No. ST8, Proc. Paper 1537, Aug 1976, pp 1537-1548, (Replaces reference No. 380 in MP C-76-6, Jun 1976).
- 275. Nakagawa, T., "Manufacturing Process of Steel Fiber for Reinforced Concrete," (In Japanese), Seisan-Kenkyu (Japan), Vol 30, No. 2, Feb 1978, pp 67-72.

- 276. Nakagawa, T., "Production of Stainless Steel Fiber by Machining for Reinforced Refractories," (In Japanese) <u>Seisan-Kenkyu</u> (Japan), Vol 30, No. 2, Feb 1978, pp 73-76.
- 277. Nakagawa, T., Suzuki, K., and Uchida, T., "Steel Fiber by Machining for Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 76-79.
- 278. Nakahara, Y., Nakazato, Y., Yurugi, M., and Sudo, H., "Applications of Steel Fiber Reinforced Concrete by Shotcrete Process Tunnelling Applications," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 164-167.
- 279. Nakahara, Y., Nakazato, Y., Yurugi, M., and Sudo, H., "Experimental Studies on Properties of Steel Fibrous Shotcrete," (In Japanese),

 Annual Report of Kajima Institute of Construction Technology (1975),

 Japan, Vol 24, Jun 1976, pp 1-6.
- 280. Nakahara, Y., and Yurugi, M., "Experimental Study on Steel Fiber Reinforced Concrete," (In Japanese), Annual Report of Kajima Institute of Construction Technology (1974), (Japan), Vol 23, Jun 1975, pp 7-12.
- 281. Nakahara, Y., Yurugi, M., and Sudo, H., "Experimental Study on Steel Fiber Reinforced Concrete," <u>CAJ Review of the 29th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1975, pp 139-142.
- 282. Nakanishi, M., Takagi, J., and Nara, Y., "Resistance of Shrinkage Cracking Due to Volume Change of Steel Fiber Reinforced Concrete (In Case of Steel Fiber Reinforced Concrete Having 15 cm Slump)," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 60-63.
- 283. Nakanishi, M., Takagi, J., and Nara, Y., "Some Properties of Steel Fiber Reinforced Concrete," <u>CAJ Review of the 31st General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 158-159.
- 284. Nakazono, S. Nakauchi, H., Kita, T., Takeuchi, T., and Ishikawa, A., "Experiments of Mixing and Compaction of Steel Fiber Reinforced Mortar," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 130-133.
- 285. Nathan, G. K., Paramasivam, P., and Lee, S. L., "Tensile Behaviour of Fiber Reinforced Cement Paste," <u>Journal of Ferrocement</u> (Bangkok), Vol 7, No. 2, Oct 1977, pp 59-79.
- 286. National Coal Board (United Kingdon), "Laboratory Tests on Wire-Reinforced Concrete," Scotish Regional Laboratory, 15 Feb 1972 and 15 Mar 1972.

- 287. National Coal Board (United Kingdom), "Report on the Wirand Concrete Tunnel Lining Trials," North Nottinghamshire Area, England, Oct 1972.
- 288. Neal, W., "Glass Fiber Reinforced Concrete (GFRC)," Concrete Construction, Vol 23, No. 11, Nov 1978, pp 644-652.
- 289. "New Refractory Mix With Steel Fibers Forms Thermal Shock Resistant Material For Furnaces," <u>Industrial Heating</u>, Vol XIV, No. 9, Sep 1972, pp 1804-1808.
- 290. "New Role for Fibre Concrete," Construction News, Nov 1976.
- 291. Nishi, S., Ohshio, A., and Sone, T., "Physical Properties of Steel Fibre-Reinforced Concrete and Fibre Alignment," <u>CAJ Review of the 30th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 269-270.
- 292. Nishigaki, T., and Tazawa, E., "Repeated Loading Test of RC Short Columns With Steel Fibers," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 105-108.
- 293. Nishioka, K., Hirakawa, K., Kitaura, I., and Koyama, S., "Mechanical Properties and Applications of Steel Fiber Concrete (Part 3, Evaluation of the Fracture Toughness)," (In Japanese), Sumitomo Kinzoku (Japan), Vol 29, No. 1, Jan 1977, pp 100-108.
- 294. Nishioka, K., Kakimi, N., Yamakawa, S., and Shirakawa, K., "Mechanical Properties and Applications of Steel Fiber Concrete (Part 1)," (In Japanese), Sumitomo Kinzoku (Japan), Vol 26, No. 3, 1974, pp 349-361.
- 295. Nishioka, K., Kakimi, N., Yamakawa, S., Shirakawa, K., and Koyama, S., "Mechanical Properties and Applications of Steel Fiber Concrete (Part 2)," (In Japanese), <u>Sumitomo Kinzoku</u> (Japan), Vol 29, No. 1, Jan 1977, pp 82-99.
- 296. Nishioka, K., Yamakawa, S., Hisakawa, K., and Akihama, S., "Test Method for the Evaluation of the Fracture Toughness of Steel Fibre Reinforced Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 87-98.
- 297. Nose, H., Yamane, K., Nakano, K, and Matsubara, A., "Steel Fiber Feed by Dispenser in Field Applications of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 136-139.
- 298. Oakley, D. R., and Unsworth, M. A., "Shear Strength Testing for Glass Reinforced Cement," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 233-241.</u>

- 299. O'Brien, T., "Specifying GRC," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England), 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 243-248.
- 300. Odello, R. J., "Attack-Resistant Walls, Explosive Tests," Report No. CEL-TN-1510, Civil Engineering Laboratory (Navy), Port Hueneme, Calif., Dec 77, 20 pp.
- 301. Ohigashi, T., "Measurement of Effective Fracture Energy of Glass-fibre Reinforced Cement," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 67-78.</u>
- 302. Ohgishi, S., "Fiber Reinforced Concrete; Present and Future," (In Japanese), Cement and Concrete (Japan), No. 355, Sep 1976, pp 66-73.
- 303. Ohgishi, S., "Fiber Reinforced Polymer-Impregnated Concrete," Concrete Journal (Japan), Vol 16, No. 7, Jul 1978, pp 1-8.
- 304. Ohgishi, S., "Problems of Fiber Reinforced Concrete Increasing Toughness," (In Japanese), <u>Journal of Architecture and Building Science</u> (Japan), Vol 93, No. 1131, Jan 1978, pp 89-93.
- 305. Ohgishi, S., "Resistance Characters to Chemical Attack of Fiber Reinforced Polymer Impregnated Mortar (FPIC)," (In Japanese), <u>Bulletin of Nagoya Institute of Technology</u>, (Japan), Vol 25, 1973, pp 305-311.
- 306. Ohgishi, S., Araki, K., and Ono, H., "Mechanical Properties of Fiber Reinforced Polymer Impregnated Concrete," <u>Proceedings</u>, 1974 Symposium on Mechanical Behavior of Materials (Kyoto, Aug 1974), pp 443-451.
- 307. Ohgishi, S., and Kizawa, K., "Experiments on Properties of Concrete and Mortar Containing Pylen Mono-Filament Dispersed in Them," (In Japanese), Bulletin of Nagoya Institue of Technology (Japan), Vol 18, 1966, pp 193-200.
- 308. Ohgishi, S., and Matsunaga, K., "Composite Effects Upon the Strength of Glass Fiber Reinforced Polymer Impregnated Gypsum," (In Japanese), <u>Bulletin of Nagoya Institute of Technology</u>, Japan, Vol 27, 1975, pp 493-500.
- 309. Ohgishi, S., and Ono, H., "Composite Effects on Aerated Mortar Reinforced by Polymer and Glass Fiber," CAJ Review of the 26th General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1972, pp 130-133.
- 310. Ohgishi, S., and Ono, H., "Composite Effects of Thermo-Hardening Polymer Cement Mortar Reinforced by Fiber," <u>CAJ Review of the 27th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1973, pp 186-189.

- 311. Ohgishi, S., and Ono., H., "On Mechanical Properties of Aerated Mortar Reinforced by Polymer and Glass Fiber," <u>CAJ Review of the 26th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1972, pp 133-136.
- 312. Ohgishi, S., and Ono, H., "Mechanical Properties of Fiber Reinforced Polymer Impregnated Concrete in Thermal-Catalytic Polymerizing," (In Japanese), Journal of Society of Materials Science, (Japan), Vol 22, No. 243, Dec 1973, pp 1070-1077.
- 313. Ohgishi, S., Ono, H., and Araki, K., "Optimum Conditions on Gamma Rays Polymerization and Mechanical Properties of Steel Fiber Reinforced Polymer-Impregnated Concrete," <u>Proceedings</u>, Second International Conference on Mechanical Behavior of Materials, Boston, Aug 1976, pp 1389-1393.
- 314. Ohgishi, S., Ono, H., Araki, K., and Kasahara, Y., "Strength Characteristics of Alkali Resistant Glass Fibre Reinforced Cement Mortar (FRC) and Fibre Reinforced Polymer Impregnated Concrete (FPIC)," CAJ Review of the 31st General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1977, pp 169-170.
- 315. Ohgishi, S., Ono, H., and Matsunaga, K., "Deflection Character-istics of Cement Mortar Plate Reinforced by Alkali Resistant Glass Fibers," CAJ Review of the 30th General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1976, pp 263-265.
- 316. Ohgishi, S., Ono, H., and Matsunaga, K., "Effect of Bond Strength (Between Fiber and Concrete) on Strength of FRC (Fiber Reinforced Concrete)," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 37-40.
- 317. Ohgishi, S., Ono, H., and Matsunaga, K., "The Strength Properties of Mortar Reinforced by Alkali Resistant Glass Fiber," <u>CAJ Review of the 30th General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1976, pp 261-263.
- 318. Ohgishi, S., Ono, H., Tanahashi, I., Araki, K., Yoshida, K., and Kasahara, Y., "Strength Characteristics of Steel Fiber Reinforced Polymer Impregnated Concrete Polymerized by Gamma Rays," (In Japanese), Journal of the Society of Materials Science (Japan), Vol 25, No. 273, Jun 1976, pp 571-578.
- 319. Ohgishi, S., and Ukai, M., "On the Mechanical Properties of Cement Mortar Mixed with Steel Fiber," (In Japanese), <u>Bulletin of Nagoya Institute of Technology</u>, Japan, Vol 21, 1969, pp 351-357.
- 320. Ohno, T., and Ibukiyama, S., "Steel Fiber Reinforced Concrete Pavement Testing at Kuroiso Bypass," (In Japanese), Concrete Journal (Japan), Vol 14, No. 6, Jun 1976, pp 62-66.
- 321. Ohno, T, Kubota, K., and Kokubu, S., "Performance of Steel Fiber Reinforced Concrete Pavement (at Kuroise Bypass, Route 4) Subjected to Traffic," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 144-147.

- 322. Ohno, K., Shibata, T., and Konishi, H., "Prediction of Tensile and Flexural Strengths of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 13-16.
- 323. Ohta, M., and Kobayashi, T., "Cracks in Flexure of Steel Fiber Reinforced Concrete Beams," (In Japanese), <u>Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977)</u>, Japan Concrete Institute, Tokyo, Nov 1977, pp 85-88.
- 324. Ohta, M., Kobayashi, T., and Ueno, H., "Proposal of Mix Proportioning for Steel Fiber Reinforced AE Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 117-120.
- 325. Okada, E., Azuma, T., and Hattori, K., "Workability and Flexural Properties of Steel Fiber Reinforced Concrete Containing Superplasticizer," CAJ Review of the 31st General Meeting-Technical Session, Cement Association of Japan, Tokyo, 1977, pp 162-163.
- 326. Okada, E., Azuma, T., Sakagami, K., and Hattori, K., "Workability and Mix Design of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 121-125.
- 327. Okada, K., "Fiber Reinforced Concrete," (In Japanese), Cement and Concrete (Japan), No. 338, Apr 1975, pp 2-8.
- 328. Okada, K., Yamura, K., Nanjo, A., Koyanagi, W., and Hashimoto, E., "Fiber Dispersion in Steel Fiber Reinforced Concrete," <u>CAJ Review of the 31st General Meeting-Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 160-162.
- 329. Oladapo, I. O., "Effect of Random Distribution of Glass Fiber in Concrete Mixes," <u>Civil Engineering</u> (London), Vol 58, No. 678, Jan 1963, pp 97-99.
- 330. O'Neil, E. F., "Ultimate Strength of Fiber-Reinforced Concrete Under Cyclic Flexural Loading," Miscellaneous Paper C-78-5, US Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss., May 1978, 25 pp.
- 331. Ostfjord, S., "Fiber Reinforced Shotcrete The Nordic Research Programme," English Summary of "Fiberarmerad Sprubetong - Nordforskprojektet," for the Nordforsk Project, Stockholm, Sweden, 1977.
- 332. Paillere, A. M., and Serrano, J. J., "Use of Metal Fibres in Light-weight Aggregate Concrete," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 205-222.</u>

- 333. Parker, H. W., et al, "Field-Oriented Investigation of Conventional and Experimental Shotcrete for Tunnels," Report No. FRA-OR and 76-06, Department of Transportation, Federal Railroad Administration, Aug 1975.
- 334. Pashchenko, A. A., Serbin, V. P., Klimenko, V. S. and Shevchenko, L. A., "Stability of Fiberglass Equipment with Polyorganosiloxane Coating in a Medium of Hardened Portland Cement," <u>Stroitel' Nyye Materialy</u> (Russian), No. 3, 1977, pp 27-28.
- 335. Pavlov, A. P., and Kulikov, A. N., "Experimental Study of Fibroconcrete in a Nongradient Stress State," (In Russian), Stroitel' Stvo I Arkhitektura, Izvestrya Vysshikh Uchebnykh Zavedeniy, No. 4, 1975, pp 17-20.
- 336. Pavlov, A. P. and Podshivalov, S. F., "The Problem of Durability of Retangular Steel Fiber Concrete Elements During Joint Action of Bending Moments and Cross Forces," <u>Izvestiya Vysshikh Uchebnykh Zavedenity</u>, Stroitel' Stvo I Arkhitektura (Russian), No. 12, 1976, pp 32-36.
- 337. Persson, H., "Konstruktionstekniska Aspekter Pa Fiberbetong (Structural Aspects on Fiber Concrete)." <u>Fiberbetong</u>, NORDFORSK's projekkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp T1-T25 (In Swedish).
- 338. Pesonen, E., "Glasfiberbetong Mekaniska Egenskaper Under Korttidslast (Glassfibre Concrete Mechanical Properties Under Short-Time Loading)," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp N1-N14 (In Swedish).
- 339. Pesonen, E., "Inblandning Av Glasfiber I Cement, Bruk Och Betong (Mixing of Glassfiberes in Cement Paste, Mortar and Concrete),"

 Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp J1-J20 (In Swedish).
- 340. "Physical Properties of GRC," (In Japanese), Semento-Kogyo (Japan), No. 144, 1977, pp 6-9.
- 341. Piazza, M., "Energy Saving With GRC Panels," Proceedings of the International Congress on Glass Fiber Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 285-290.
- 342. Pihlajavaara, S. E., "Carbonation Effects on Concrete and on Fibre Reinforced Concrete," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRD-Material, Delvapporter. Cement-och begoninstitutet, Fack, Stockholm, Sweden, 1977, pp B1-B15.
- 343. Pihlajavaara, S. E, "Testing Methods of Fibre Reinforced Concrete as Designed and Applied in the Technical Research Centre of Finland Concrete Laboratory," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield,

 Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 197-203.

- 344. Pihlajavaara, S. E., and Pihlman, E., "Results of Long-Term Deformation Tests of Glass Fibre Reinforced Concrete," <u>Fiberbetong</u>, NORDFORSK's projektkommitte for FRC-Material, Delvapporter.
 Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp 01-031.
- 345. Pinchin, D. J., and Tabor, D., "Interfacial Contact Pressure and Frictional Stress Transfer in Steel Fiber Cement," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites</u>, <u>Sheffield</u>, <u>Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 337-344.
- 346. Pinchin, D. J., and Tabor, D., "Interfacial Phenomena in Steel Fibre Reinforced Cement. I: Structure and Strength of Interfacial Region," Cement and Concrete Research, Vol 8, No. 1, Jan 1978, pp 15-24.
- 347. Pinchin, D. J., and Tabor, D., "Interfacial Phenomena in Steel Fibre Reinforced Cement. II: Pull-out Behavior of Steel Wires," Cement and Concrete Research, Vol 8, No. 2, Mar 1978, pp 139-150.
- 348. Pisanko, G. N., Gamayunov, Ye. I., Nagevich, Yu. M. and Minakova, V. N., "The Frost stability of Dispersionally Fortified Concrete," <u>Transportnoye Stroitel' Stvo</u> (Russian), No. 3, 1977, pp 45-50.
- 349. Pisanko, G. N., Nagevich, Yu. M., Gamayunov, Ye. I., and Minakova, V. N., "Corrosion Stability of Dispersed Reinforced Concrete," <u>Transportnoye Stroitel'Stvo</u> (Russian), No. 6, 1977, pp 48-49.
- 350. Pomeroy, C. D., "Concrete, An Alternative Material," Proceedings,
 Institution of Mechanical Engineers (London), Vol 192, No. 14,
 pp 135-144.
- 351. "Preliminary Investigation of the Use of Fiberglass," Magazine of Concrete Research (London), Vol 6, No. 17, Sep 1954, pp 71-78.
- 352. Proceedings of the International Congress on Glass Fibre Reinforced Cement, 12-14 Oct 1977, Glass Fibre Reinforced Cement Association, Farthings End, Dukes Ride, Gerrands Cross, Bucks, England, 1978, 344 pp.
- Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, 546 pp.
- 354. Proceedings of the Symposium on Steel Fiber Reinforced Concrete, Tokyo, Nov 7, 1977, Japan Concrete Institute, Tokyo, Nov 1977, 176 pp.
- Proctor, B. A., "Glass Fibre Reinforced Cement," Physics in Technology (England), Jan 1975, pp 28-32.
- 356. Proctor, B. A., "Glassfibre Reinforced Cement Principles and Practice," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 51-68.

- 357. Rabinovich, F. N., "Glass-Fibre Reinforced Plaster Building Components," <u>Stroitelny Materialy</u> (Russian), No. 1, 1972, pp 21-23.
- 358. Rahimi, M. M., and Kesler, C. E., "Partially Steel-Fiber Reinforced Mortar," <u>Journal of the Structural Division</u>, ASCE, No. 105, No. ST1, Proc. Paper 14282, Jan 1979, pp 101-109.
- 359. Raymond, J. D., Portland Cement Mortar Modified with Latex and Fiberglass for Thin-Shell Construction, Master Thesis, Agricultural and Mechanical College of Texas, Jan 1963, 46 pp.
- 360. Reeves, P. L., and Boon, P. R., "Production of 'Slimline' Pipes,"
 Proceedings of the International Congress on Glass Fibre Reinforced
 Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 179188.
- 361. "Refractory Castable Foils Flaws," <u>Ceramic Age</u>, Vol 21, Sep 1972, pp 18.
- 362. Reinholdsson, H. and Sandelius, U., "Skjuvforsok Pa Fiberarmerade Balkar," Examensarbete i Brobyggnad KTH, 1976, Stockholm, Sweden.
- 363. "Research in Airport Pavements," Report No. SR-17S, National Academy of Sciences, Transportation Research Board, Washington, D. C., May 1977, 13 pp.
- 364. "Research on Manufacturing Technologies on Fireproof Lightweight Building Materials: Special Research in 1971 to Approximately 1974," Reports of the Government Industrial Research Institute, Japan, No. 15, pp 791-833, Jan 1976 (In Japanese) (Reference pertains to use of glass and asbestos fibers).
- 365. "Review of the Thirtieth General Meeting, The Cement Association of Japan, 1976," The Cement Association of Japan (Hattori Building No. 1, 1-chrome, Kyobashi, Chou-Ku, Tokyo, Japan), 1976, 325 pp.
- 366. Robins, P. J., and Calderwood, R. W., "Explosive Testing of Fibre-Reinforced Concrete," Concrete, Vol 12, No. 1, Jan 1978, pp 26-28.
- 367. Ruffert, G., "Erfahruugen MitStahlfaserspritzbeton (Experience with Steel-Fiber-Reinforced Shotcrete)," <u>Tiefbau</u>, Dec 1974 (In German).
- 368. Sakai, T., "Development of Glass Fibers for Reinforcing Cement and Concrete," (In Japanese), Chemistry and Chemical Industry (Kagaku To Kogyo) (Japan), Vol 30, No. 3, Mar 1977, pp 179-182.
- 369. Sakai, M., and Nakamura, N., "Flexural-Shear Test of Steel Fiber Reinforced Concrete Columns," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 101-104.
- 370. Sakurai, H., Itoh, S., Ibukiyama, S., Okuno, M., and Mizusawa, S., "Steel Fiber Reinforced Concrete Overlay," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 148-151.

- 371. Sakurai, H., Itoh, S., and Tanaka, T., "Mechanics of Concrete with Steel Fibers," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 9-12.
- 372. Sandell, B., "Fyr Forsedd Med Regnkappa Av Fiberamerad Betong," Byggnadsindustrin, Vol 28, 1975, Stockholm, Sweden, pp 29-31.
- Sandell, B., "Stalfiberarmerad Sprutbetong," Cement och Betonginstitutet, Sammanf, Inf. dagen, 1977, Stockholm, Sweden, pp 50-75.
- 374. Sanno, H., and Kobayashi, K., "The Shear Strength of Concrete Beams Reinforced With Randomly Distributed Steel Fibers," (In Japanese), Seisan-Kenkyu (Japan), Vol 27, No. 11, Nov 1975, pp 459-462.
- 375. Sanno, H., Kobayashi, K., and Tomita, T., "Influence of Fiber Distribution and Orientation on Tensile Strength of Steel Fiber Reinforced Concrete," (In Japanese), <u>Seisan-Kenkyu</u> (Japan), Vol 28, No. 9, Sep 1976, pp 395-398.
- 376. Schrader, E. K., "Formulating Guidance for Testing of Fibre Concrete in ACI Committee 544," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 9-21.
- 377. Schultheis, H., "Completion and Substitution of Asbestos Cement by Plastic Materials," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 378. Serebryakov, B. I., "Dispersed Reinforced Concretes, Their Range of Applications, Means of Qualitative Improvement of Their Properties," Sbornik Trudov Leningr. Inzhenerno-Stroitel. Inst. (Leningr.), No. 114, 1976, pp 5-22.
- 379. Shah, S. P. and Baehr, D., "Properties of Glass Fiber Reinforced Gypsum Sheets," <u>Journal of the Structural Division</u>, ASCE, Vol 103, ST1, Jan 1977, pp 23-32.
- 380. Shah, S. P., Stroeven, P., Dalhuisen, D., and van Stekelenburg, P., "Complete Stress-Strain Curves for Steel Fiber Reinforced Concrete in Uniaxial Tension and Compression," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 399-408.
- 381. Shannon, I. S. and Pimenova, A. S., "Fiberglass Plastics for Concrete Reinforcement," <u>Stekol, Infrom. Byul. Vses. Nauchn-Issled.</u>, Inst. Stekla, Vol 1, 1961, pp 19-22.
- 382. Shi-ire, T., "Building Materials and Fibers: Fiber Reinforced Concrete," (In Japanese), Engineering Materials (Kogyo Zairyo) (Japan), Vol 21, No. 5, May 1973, pp 49-52.

- 383. Shi-ire, T., and Umemiya, I., "Improvement in Tensile Strength of Mortar With Metallic Fibers," (In Japanese), Cement and Concrete (Japan), No. 301, Mar 1972, pp 17-21.
- 384. Shirakawa, K., Nishioka, K, Yamakawa, S., and Koyama, S., "Effective Applications of Steel Fiber Reinforced Concrete," <u>Transactions</u>, Japan Society for Composite Materials, Vol 2, No. 2, Dec 1976, pp 69-75.
- 385. Shvidko, Ya I., Kagan, M. Z., and Matveyev, G. V., "The Use of Dispersed Reinforced Concrete for the Production of Tunnel Working Units," Transportnoye Stroitel' Stvo, No. 11, 1977, pp 29-30.
- 386. Singh, B., Walton, P. L., and Stucke, M. S., "Test Methods Used to Measure the Mechanical Properties of Fibre Cement Composites at the Building Research Establishment," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 377-387.</u>
- 387. Singh, R., "Fibrous Building Materials Produced from Industrial Waste," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 388. Skarendahl, A., "Determination of Fibre Content, Distribution, and Orientation," CBI-Forskning-Report 7415, Cement och Begoninstitutet, Fack, Stockholm, Sweden, 1974, 5 pp.
- 389. Skarendahl, A., "Draghallfasthet Oct Barformaga vid Vojning for Fiberarmerad Betong," CBI-Forskning-Rerpot 7509, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1975, 8 pp.
- 390. Skarendahl, A., "Egenskaper Hos farsk Och Hardnad Stalfiberarmerad Betong. Inledande Forsoksserie Med Varierande Fiberdata, CBI-Forskning-Report 7510, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1975, 23 pp.
- 391. Skarendahl, A., "Farsk Stalfiberbetong (Fresh Steelfibre Concrete),"
 Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977,
 pp K1-K11 (In Swedish).
- 392. Skarendahl, A., "Fiberarmerade Cementbaserade Material," Nordisk Betong, No. 5, 1974, Also CBI-Report 6:75, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1975, 6 pp.
- 393. Skarendahl, A., "Fiberbetong Produktionsmetoder, Egenskaper och Anvandning," CBI- Report 14:75, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1975, 16 pp.
- 394. Skarendahl, A., "RILEM Technical Committee 19-FRC; Evaluation of Fibre Reinforced Cement-Based Composites," CBI-Forskning-Report 7407, Cement och Betonginstitutet, Fack, Stockholm, Sweden, 1974, 7 pp.

- 395. Skarendahl, A., "Stalfiberbetongs Mekaniska Egenskaper Vid Korttidsbelastning (Mechanical Properties of Steel Fibre Concrete at Short Time Loading)," Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp L1-147 (In Swedish).
- 396. Skarandahl, A., "Stalfiberbetongs Slagseghet Vid 1 Och 2 Dimensionell Fiberorientering (Impact Strenth of Steel Fibre Concrete with Fibres Oriented in 1 and 2 Dimensions," Fiberbetong, NORDFORSK's projektkommitte for FRC-Material, Delvapporter. Cement betonginstitutet, Fack, Stockholm, Sweden, 1977, pp S1-S10 (In Swedish).
- 397. "Slaghallfasthet for Asbestcementprodukter," Provningsmetod SP 01-15-68, Statens Provningsanstalt, Stockholm, 1968, 2 pp.
- 398. "Slimline No. 1," <u>Precast Concrete</u>, Vol 8, No. 5, May 1977, pp 253-255.
- 399. Slipka, K., Lizr, A., and Fiala, K., "Procedures to Determine the Average Diameter Value and the Average Value of the Second Power of the Diameter of Glass Fibers," (In German), Bekanntmachungen Des Amtes Fur Erfindungs (Und Patenwesen Der DDR 111465), Vol 16, No. 3, 1975, p 95.
- 400. Solovyev, V. S., Yukina, L. P., Lvov, L. A., and Obukhov, A. I.,
 "Three Layered Asbestos Cement Panels for Living Quarters Series
 122," Transportnoye Stroitel'stvo (Russian), No. 6, 1977, pp 21-23.
- 401. Spence, F. E., "Re-cladding of an Existing Building with Tile Faced GRC Units," <u>Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977)</u>, The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 279-284.
- 402. Spires, J. W., Romualdi, J. P., and Pichumani, R., "Analysis of Steel-Fiber Reinforced Concrete Warehouse Floor Slabs," Proceedings, American Concrete Institute, Journal, Vol 74, No. 12, Dec 1977, pp 616-622.
- 403. Sridhar Rao, J. K., Paramasivam, P., and Bajaj, M., "Multiphase Behavior of Unidirectional Fiber Reinforced Mortar Composites," Proceedings, Second International Conference on Mechanical Behavior of Materials, American Society of Metals, Metals Park, Ohio, Aug 1976, pp 1368-1370.
- 404. Sridhav, Rao, J. K and Parimi, S. R., "Size Effects on the Mechanical Behavior of Fiber Reinforced Concrete Materials," <u>Proceedings</u>, <u>Second International Conference on Mechanical Behavior of Materials</u>, <u>American Society of Metals</u>, <u>Metals Park</u>, Ohio, Aug 1976, pp 209-213.
- 405. Stamm, J. A., "Tensile Properties of Portland Cement Concrete with Alkali Resistance Glass Fiber Reinforcement," MSc. Thesis, Department of Civil Engineering, Massachusetts Institute of Technology, Cambridge, 1974.

- 406. "Steel Fibre Concrete," CUR Rapport 89, Netherlands Committee for Concrete Research, Zoetermeer, 1977, 64 pp (In Dutch).
- 407. "Steel Fiber Reinforced Shotcreting Using Super High Early Strength Portland Cement," (In Japanese), <u>Kenchiku-Gijutsu</u> (Japan), No. 319, Mar 1978, p 135.
- 408. Steele, B. R., "Fibres in Cement and Concrete," <u>Composites</u>, Jun 1971, p 67.
- 409. Stroeven, P. "Morphometry of Fibre Reinforced Cementitious Materials, Part 1, Efficiency and Spacing in Idealized Structures,"

 Materials and Structures, Research and Testing, Vol 11, No. 61, 1978, pp 31-38.
- 410. Stroeven, P., and Shah, S. P., "Use of Radiography-Image Analysis for Steel Fibre Reinforced Concrete," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 275-288.</u>
- 411. Stroeven, P., Shah, S. P., de Haan, Y. M., and Bouter, C., "Pullout Tests of Steel Fibres," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 345-353.
- 412. Strogonov, Yu D., Kazantseva, S. I., Perlin, V. C., Aleksandrov, V. S., and Chumadurova, L. I., "The Technology of Asbestos Cement Sheets with a Liquid Glass Based Coating," <u>Stroitel' Nyye Materialy</u>, No. 10, 1977, pp 15-16, (In Russian).
- 413. Stucke, M. S. and Majumdar, A. J., "Microstructure of Glass Fibre-Reinforced Cement Composites," <u>Journal of Materials Science</u> (England), No. 11, 1976, pp 1019-1030.
- 414. Suzuki, Y., "Alkali Resistant Glass An Interpretation of Effect of Zirconia," (In Japanese), <u>Ceramics Japan</u>, Vol 11, No. 7, Nov 1976, pp 604-611.
- 415. Swamy, R. N., "Mechanics of Fiber Reinforcement of Cement Matrices," Conference on Properties and Applications of Fibre Reinforced Concrete and Other Fibre Reinforced Building Materials, Delft, The Netherlands, 1973, pp 13-33.
- 416. Swamy, R. N., and Bahia, H. M., "Influence of Fiber Reinforcement on the Dowel Resistance to Shear," <u>Proceedings</u>, <u>American Concrete Institute</u>, <u>Journal</u>, Vol 76, No. 2, Feb 1979, pp 327-355.
- 417. Swamy, R. N. and Kameswara Rao, C. V. S., "Some Engineering Considerations of Fibre Concrete," <u>Composites Standards, Testing, and Design</u>, p 105.
- 418. Swamy, R. N. and Stavrides, H., "Influence of the Method of Fabrication on Strength Properties of Steel Fibre Concrete," Materials and Structures, Research and Testing, Vol 9, No. 52, Jul-Aug 1976, pp 243-253.

- 419. Swamy, R. N., Theodorakopoulos, D. D., and Stavrides, H., "Shrinkage and Creep Characteristics of Glassfibre Reinforced Cement Composites," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 75-96.
- 420. Swift, D. G., and Smith, R. B. L, "The Physical Significance of the Flexural Test for Fibre Cement Composites," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 463-478.
- 421. Szabo, I., and Dombi, J., "Force-Strain and Fatigue Behaviour of Steel Fibre Reinforced Concrete Pipes," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 243-258.
- 422. Takagi, J., "Strength Prediction of Steel Fiber Reinforced Concrete," <u>Transactions</u>, Architectural Institute of Japan, No. 251, Jan 1977, pp 1-10.
- 423. Takagi, J., "Strength Prediction of Steel Fiber Reinforced Concrete (Part 1)," (In Japanese), Reports of the Research Laboratory of Shimizu Construction Co., Ltd., Japan, Vol 26, Apr 1976, pp 1-12.
- 424. Takagi, J., "Strength Prediction of Steel Fiber Reinforced Concrete (Part 2)," (In Japanese), Reports of the Research Laboratory of Shimizu Construction Co., Ltd. Japan, Vol 27, Oct 1976, pp 11-16.
- 425. Takahashi, T., and Nishimoto, Y., "Foundation Test for Steel Fiber Reinforced Concrete," CAJ Review of the 31st General Meeting— <u>Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 155-158.
- 426. Takazuka, T., "Experimental Feed of Aligned Steel Fiber into Concrete Mixer," (In Japanese), <u>Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977)</u>, Japan Concrete Institute, Tokyo, Nov 1977, pp 134-135.
- 427. Takazuka, T., Nakaoka, K., and Sakai, M., "Steel Fiber for Concrete Reinforcement," (In Japanese), Nippon Kokan Giho (Japan), No. 69, 1976, pp 67-77.
- 428. Takeuchi, Y., and Urata, T., "New Building Using GFRC Cladding Panel," (In Japanese), Concrete Journal (Japan), Vol 15, No. 11, Nov 1977, pp 21-26.
- 429. Talaber, J., "Some Conditions of Asbestos Substitution in Asbestos Cement Products," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.

- 430. Tallentire, A. G., "GRC and Its Future Whither Now?," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 311-322.
- 431. Tanigawa, Y., and Hashizume, M., "Compressive Deformation and Critical Crack Tip Stress Intensity Factor of Steel Fiber Reinforced Concrete," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 25-28.
- 432. Tazawa, E., "Improvement of Reinforced Concrete Anticipated Through Steel Fiber Addition," (In Japanese), Concrete Journal (Japan), Vol 15, No. 3, Mar 1977, pp 67-71.
- 433. "Technical Information Sheet for Steel Fibre Reinforced Shotcrete," (In German) Beton Herstellung und Verwendung (Dusseldorf), Vol 27, No. 2, Feb 1977, pp 66-68.
- 434. Tesfaye, E., Clarke, L. L., and Cohen, E. B., "Test Method for Measuring Moisture Movements in Fibre Concrete Panels," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 159-171.
- 435. Thiele, K., "Some Aspects on the Choice of Asbestos-Cement Machinery," Presented at the Fibro-Cement Composites Expert Working Group Meeting, United Nations Industrial Development Organization, Vienna, 20-24 Oct 1969.
- 436. True, G. F., "GRC and Permanent Formwork," Concrete (England), Vol 11, No. 5, May 1977, pp 20-23.
- 437. Tyson, S. S., "Two-Course Bonded Concrete Bridge Deck Construction in Virginia," Presented at the 56th Annual Meeting of the Transportation Research Board, Jan 1977, Washington, D. C., Virginia . Highway and Transportation Research Council, Charlottesville, Virginia, Dec 1976.
- 438. Uchikawa, H., "A Review of Fiber Reinforced Concrete," (In Japanese), Chemistry and Chemical Industry (Kagaku To Kogyo) (Japan), Vol 24, No. 11, 1973, pp 1468-1478.
- 439. Umemiya, I., "Fiber Reinforced Concrete," (In Japanese), Kenchikukai (Japan), Vol 20, No. 10, Oct 1971, pp 31-36.
- 440. University of Toronto, "Fibre/Cement Sealants for Concrete Bridge Decks," Faculty of Applied Science and Egnineerings, University of Toronto, Canada, 1975.
- 441. "USSR Glass Fibres to Reinforce Cement Mortar," New Scientists, 17 Sep 1964, p 699.
- 442. Usui, H., Shimatani, H., and Tanaka, H., "On the Fabrication of GRC Curtain Wall Panel," CAJ Review of the 31st General Meeting— <u>Technical Session</u>, Cement Association of Japan, Tokyo, 1977, pp 253-254.

- 443. "Utilization of Steel Fiber Reinforcement of Refractories," <u>Industrial Heating</u>, Vol XLIII, No. 8, Aug 1976, pp 40-45.
- 444. Verhagen, A. H., "Impact Testing of Fibre Reinforced Concrete: Reflection on Possible Test Methods," <u>Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978</u>, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 99-105.
- 445. Verhagen, A. H., and Schaap, K. J., "Steel Fibre Concrete for Machine Frames," <u>Cement</u> (Amsterdam), Vol 29, No. 8, Aug 1977, pp 362-365. (In Dutch). (Translation available from Cement and Concrete Association as No. T165.)
- 446. Volchek, I. Z., Konov, G. V., Izotova, L. D., and Grigoryeva, L. S., "Asbestos Perlite Cement Technology and Properties," <u>Stroitel' Nyye Materialy</u>, No. 10, 1977, pp 20-21 (In Russian).
- 447. Walford, L., "Facing Up To New Demands," Concrete (England), Vol 12, No. 9, Sep 1978, p 23.
- 448. Walker, A. J. and Lankard, D. R., "Bridge Deck Rehabilitation with Steel Fibrous Concrete," Presented at the Third Annual World of Concrete Internation Exposition on Concrete Construction, New Orleans, Louisiana, 5-8 Jan 1977, Battelle, Columbus Laboratories, Columbus, Ohio.
- 449. "Wall Panels Represent Major Application of GFRC," Concrete Construction, Vol 24, No. 1, Jan 1979, p 68.
- 450. Walton, P. L., and Majumdar, A. J., "Properties of Cement Composites Reinforced with Kelvar Fibres," Building Research Establishment Current Paper CP 57/78, Building Research Establishment, Garston, Watford, England, 1978, 11 pp (Also published in Journal of Materials Science, Vol 13, No. 5, 1978, pp 1075-1083).
- 451. Ward, D., and Proctor, B. A., "Quality Control Test Methods for Glass Fibre Reinforced Cement," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 35-44.
- 452. Warner, B. L., "Evaluation of Materials for Protecting Existing Urethane Foam in Mines," Bu Mines OFR 75-76, U. S. Bureau of Mines, 2 Sep 1974 (NTIS PB 254682).
- 453. Weston, K. C., "Guniting Applications Using Steel Fibre Reinforced Concrete," National-Standard Company Limited, Kidderminister, England, 18 Nov 1976.
- 454. Williamson, G. R., "Steel Fibers as Web Reinforcement in Reinforced Concrete," Construction Engineering Research Lab (Army), Champaign, Ill., Jun 78, 15 pp.
- 455. Williamson, G. R., "Steel Fibers as Web Reinforcement in Reinforced Concrete," Proceedings, US Army Science Conference, Vol III, West Point, New York, 20-22 Jun 1978, pp 363-377.

- 456. Williamson, G. R., Smith, A., Morse, D., Woratzeck, M., and Barrett, H., "Inflation/Foam/Shotcrete System for Rapid Shelter Construction," CERL Technical Report M-215, Construction Engineering Research Laboratory, Champaign, Illinois, May 1977.
- 457. Wirand Concrete Design Manual for Factory and Warehouse Floor
 Slabs, Prepared by GAI Consultants, Inc., Monroeville, Pittsburgh,
 Pennsylvania, for Battelle Development Corp., Columbus, Ohio.
- 458. Wischers, V. G., "Aufnahme und Auswirkungen von Druckbeanspruchungen auf Beton (Supporting Compressive Forces and the Effects on Concrete)," Beton, Vol 28, No. 2, Feb 1978, pp 63-67 (In German).
- 459. Wise, D. B., "Surface Bonding with Glass Reinforced Concrete A System for Wall Construction," Proceedings of the International Congress on Glass Fibre Reinforced Cement (Brighton, England, 12-14 Oct 1977), The Glassfibre Reinforced Cement Assn., Gerrands Cross, Bucks, England, 1978, pp 205-222.
- 460. Wooldridge, J. R., "Steel Fibrous Shotcrete," Presented at the "World of Concrete Fibrous Concrete Seminar," New Orleans, Louisiana, Jan 1977.
- 461. Yamakawa, S., "Steel Fiber Reinforced Concrete," (In Japanese), Metals (Kinzoku) (Japan), Vol 46, No. 6, Jun 1976, pp 50-56.
- 462. Yamakawa, S., Shirakawa, K., and Koyama, S., "Shear Behavior of Steel Fiber Reinforced Concrete Beams," (In Japanese), <u>Proceedings</u> of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 93-96.
- 463. Yamakawa, S., Shirakawa, K., Nose, H., and Koyama, S., "Steel Fiber Reinforced Concrete Pavement Trials," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 152-155.
- 464. Yoshida, R., "Alkali Resistant Glass Fiber and Composite Materials," (In Japanese), <u>Journal of the Japan Society for Composite Materials</u>, Vol 2, No. 1, Jan 1976, pp 12-19.
- 465. Young, J., <u>Designing With GRC</u>, The Architectural Press, Ltd., London, 1978, 33 pp.
- 466. Yuan, R. L., and Chen, W. F., "Abrasion Test for Fibre Reinforced Concrete," Proceedings of the International Symposium on Testing and Test Methods of Fibre Cement Composites, Sheffield, Apr 5-7, 1978, The Construction Press, Ltd., Hornby, Lancaster, United Kingdom, 1978, pp 531-536.
- 467. Yuhki, M., Hinuma, T., and Nakazaki, S., "Steel Fiber Reinforced Concrete Pavement," (In Japanese), <u>The Doboku-Seko</u> (Japan), Vol 18, No. 11, Aug 1977, pp 27-32.

- 468. Yuhki, M., and Nakazaki, S., "Trials of Steel Fiber Reinforced Concrete Paving," (In Japanese), Proceedings of the Symposium on Steel Fiber Reinforced Concrete (Tokyo, Nov 7, 1977), Japan Concrete Institute, Tokyo, Nov 1977, pp 140-143.
- 469. Zerna, W., and Schnutgen, B., "Some Remarks on Properties of Steel Fiber-Reinforced Concrete," Conference on Properties and Applications of Fibre Reinforced Concrete and Other Fibre Reinforced Building Materials, Delft, The Netherlands, 1973, pp 53-62.
- 470. Zhadanova, S., "Asbestos Cement Parts to Increase the Production of Large Scale Construction and Finishing Asbestos Cement Parts," Stroitel (Moscow), No. 9, 1977, p 8.
- 471. Zollo, R. F. and Campbell, R. B., "Extrusion of Glass Fiber Reinforced Concrete Mortars," Proceedings, American Concrete Institute, Journal, Vol 74, No. 11, Nov 1977, pp 552-555.

PATENTS

Steel Fiber Patent No.	
157,903 (U.S.)	Artificial Stone; by A. Berard, assignor of one-half his right to F. Chappellett, 15 Dec 1874.
316,458 (U.S.)	Metallic Fabric; W. Hewitt, assigned to the Trenton Iron Company, Trenton, New Jersey, 28 Apr 1885
531,520 (U.S.)	Composition for Artificial Stone, B. W. Eddy, 25 Dec 1894
983,274 (U.S.)	Reinforced Concrete; G. M. Graham, 7 Feb 1911
1,046,913 (U.S.)	Bonding Means for Reinforced Concrete Structures; R. D. Weakley, 10 Dec 1912
485,601 (French)	Procede Pour Couler le Beton ou le Beton Renforce; H. Alfsen, 24 Jan 1918
338,959 (German)	Verfahreinzur Herstelling einer, Kunstlichen Bearbeitungs fahigen Eisenmasse. (Method of Preparation of a Synthetic Machinable Iron Mass); A Kleinlogel, 18 Jan 1920
514,186 (French)	High Density Mortar; J-C. Seailles, 13 Nov 1920
1,633,219 (U.S.)	Method of Forming Pipe; G. C. Martin, 21 Jun 1927
1,349,901 (U.S.)	Ferro Concrete Construction; W. Meischke-Smith, 17 Aug 1927
1,913,707 (U.S.)	Concrete Construction; H. Etheridge, 13 Jun 1933
2,677,955 (U.S.)	(Title not given but pertains to coiled or helical type steel fibers; G. Constantinesco, 11 May 1954
3,429,094 (U.S.)	(Title not given but describes a method of improving cracking strength with fibers); J. P. Romualdi, 25 Feb 1969
3,650,785 (U.S.)	Portland Cement Compositions Reinforced with Non-Round Filaments; by C. G. Ball, A. C. Grimm, and T. Melville, assigned to U. S. Steel Corporation, 21 Mar 1972.
3,834, 916 (U.S.)	Fiber-Reinforced Cement Composite; by C. E. Kesler, assigned to U. S. Steel Corporation, 10 Sep 1974.
3,852,930 (U.S.)	Tridimensional Fiber Reinforcement of Portland Cement Concrete Matrices; by A. E. Naaman, assigned to Massachusetts Institute of Technology, 10 Dec 1974.

Patent No.	Description of Patent
3,900,667 (U.S.)	Reinforcing Wire Element and Materials Reinforced Therewith; by J. Moens, assigned to N. V. Bekaert S.A., 19 Aug 1974
3,986,885 (U.S.)	Flexural Strength in Fiber-Containing Concrete, by D. R. Lankard, assigned to Battelle Development Corporation, 19 Oct 1976.
4,023,706 (U.S.)	Method of Preparing Fibrous Concrete, W. E. Dearlove and F. S. Engelking, assigned to Caterpillar Tractor Co., U.S.
4,023,779 (U.S.)	Fibrous Concrete Mixing System, F. J. Beloy, assigned to Caterpillar Tractor Co., U.S.
Glass Fibers	<u>1</u>
2,738,285 (U.S.)	Reinforced Cement Products, L. P. Biefield and F. O. Brisley, (OCF), 13 Mar 1956.
2,793,130 (U.S.)	Coating of glass fibers for use in pressure-molded cementitious products; R. F. Shannon and R. H. Mitchell (OCF), 21 May 1957.
1,040,444 (Ger.)	Concrete-bonded Parts Containing Silicate Fibers; Grunzweig and Hartmann, 2 Oct 1958, addn. to Gern. 1,026,928.
1,123,968 (Ger.)	Fiber-Reinforced Concrete, Chemieproduket G.m.b.H. (by Benno Wedekind and Reinhard Otten), 15 Feb 1962
3,147,127 (U.S.)	Production of Glass Reinforced Cementitious Articles, R. F. Shannon, (OCF), 1 Sep 1964.
297,123 (Neth.)	Reinforced Concrete, Reinforcement is realized with plastic, metallic, or glass fibers or with metal or plastic rods; Metzeler Gummiwerke AG., Neth. Appl. 25 May 1964, Ger Appl. 22 May 1963.
1,455,976 (French)	Reinforced concrete, James H. Donnelly, 21 Oct 1966. (It is is made from mineral cement, pozzolan, fiber glass, epoxy resin plus hardener, and gelling agent.
53,023 (Ger. (East))	Concrete Building Materials with Glass Fragments; by E. Pippert, G. Herrndorf, and L Schild, 20 Dec 1966.
Polymeric F	lbers
2,459,141 (Ger.)	Structural Lightweight Fiber-Reinforced Concrete, A.F.M. Mendoza and C. D. Pomeroy, assigned to John Laing and Sons Limited, Ger. Offen, 26 Jun 1975.

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Va.: available from National Technical Information Service,
1979.

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